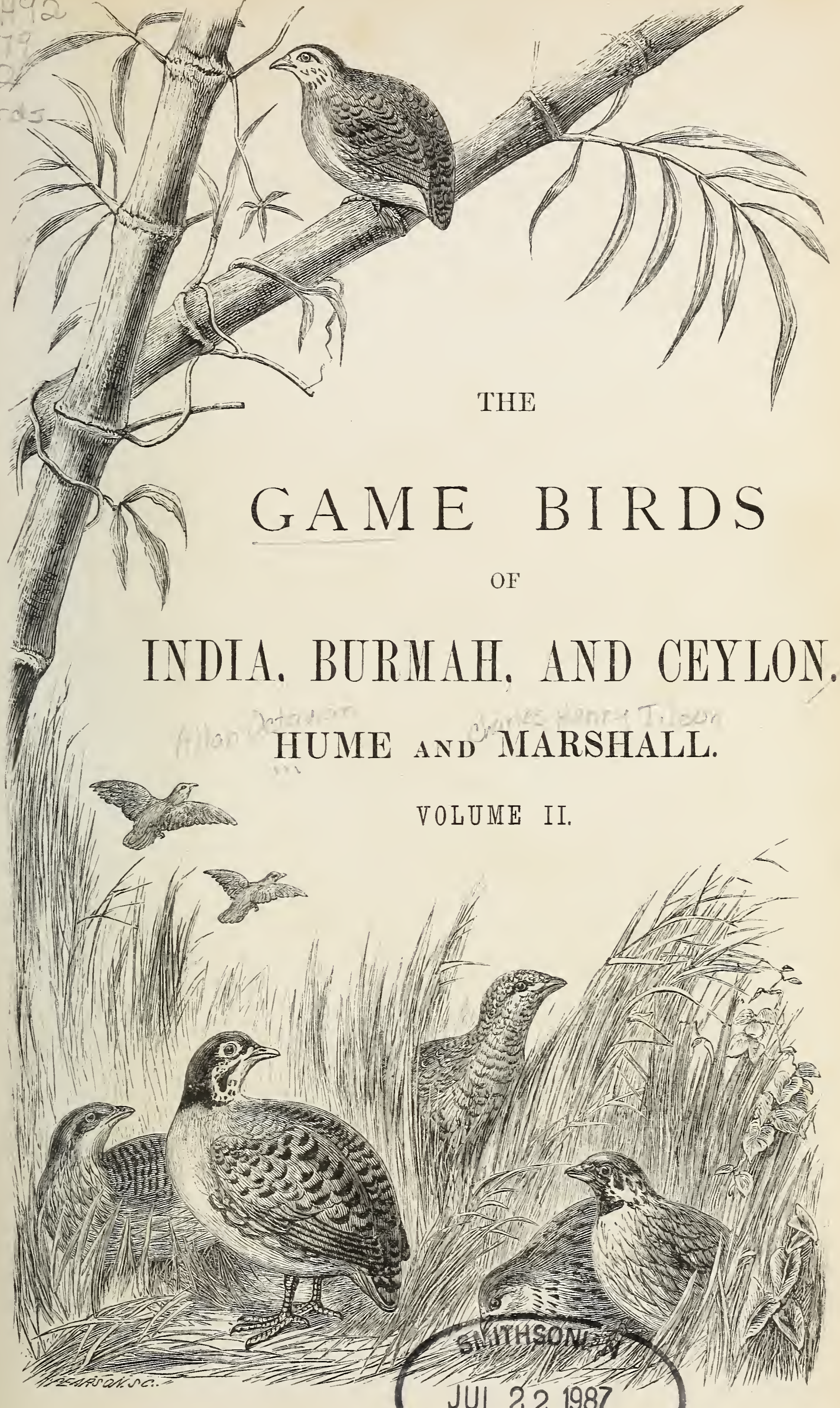


THE

GAME BIRDS

OF

INDIA, BURMAH, AND CEYLON.

HUME AND MARSHALL.

VOLUME II.

SMITHSONIAN
JUL 22 1987
LIBRARIES

CONTENTS.

Popular Name.	Scientific Name.	Page.
The Snow Partridge	Lerwa nivicola ...	1
The Black Partridge or Common Francolin	Francolinus vulgaris	9
The Painted Partridge or Southern Francolin	Francolinus pictus ...	19
The Eastern or Chinese Francolin	Francolinus chinensis[1]	27
The Chukor	Caccabis chukor ...	33
The Seesee	Ammoperdix bonhami ...	45
The Grey Partridge	Ortygornis pondicerianus[2] ...	51
The Kyah or Swamp Partridge ...	Ortygornis gularis ...	59
The Tibetan Partridge ...	Perdix hodgsoniæ ...	65
The Common Hill Partridge ...	Arboricola torqueolus[3]	69
The Rufous-Throated Hill Partridge	Arboricola rufogularis	75
The Black-Throated Hill Partridge	Arboricola atrogularis	79
The Bhutan Hill Partridge ...	Arboricola mandellii	83
The Aracan Hill Partridge ...	Arboricola intermedius[4] ...	85
The Brown-Breasted Hill Partridge	Arboricola brunneopectus ...	87
The Green-Legged Wood Partridge	Arboricola chloropus	91
The Malayan Wood Partridge ...	Arboricola charltoni[5]	93
The Western Bamboo Partridge ...	Bambusicola fytchii[6]	97
The Ferruginous Wood Partridge	Caloperdix oculeus[7] ...	101
The Red-Crested Wood-Quail ...	Rollulus roulroul ...	103
The Mountain Quail	Ophrysia superciliosa[8] ...	105
The Jungle Bush Quail ...	Perdicula asiatica[9] ...	109
The Rock Bush Quail	Perdicula argoondah[10]	117
The Painted Bush Quail ...	Microperdix erythrorhynchus[11] ...	123

1. Wrongly *phayrii* on Plate.
2. ,, *ponticerriana* on Plate.
3. ,, *torqueola* on Plate.
4. ,, *intermedia* on Plate.
5. ,, *Perdix* on Plate.
6. ,, *Bambisicola* on Plate.
7. Wrongly *occulea* on Plate.
8. ,, *Malacortyx superciliaris* on Plate.
9. ,, *cambaiensis* on Plate.
10. ,, *asiatica* on Plate.
11. ,, *Perdicula erythrohyncha* on Plate.

Popular Name.	Scientific Name.	Page.
THE EASTERN PAINTED BUSH QUAIL	Microperdix[12] blewitti	129
THE COMMON OR GREY QUAIL ...	Coturnix communis...	133
THE BLACK-BREASTED OR RAIN QUAIL	Coturnix coromandelica[13] ...	151
THE BLUE-BREASTED OR PAINTED QUAIL	Excalfactoria chinensis[14] ...	161
THE INDIAN BUSTARD QUAIL ...	Turnix taigoor[15] ...	169
THE INDO-MALAYAN BUSTARD QUAIL	Turnix plumbipes[16]...	177
THE BURMO-MALAYAN BUTTON QUAIL	Turnix maculosa[17] ...	183
THE INDIAN BUTTON QUAIL ...	Turnix joudera[18] ...	187
THE LITTLE BUTTON QUAIL ...	Turnix dussumieri ...	193
THE NICOBAR BUTTON QUAIL ...	Turnix albiventris ...	199
BAILLON'S CRAKE	Porzana bailloni[19] ...	203
THE LITTLE CRAKE	Porzana parva ...	209
THE SPOTTED CRAKE	Porzana maruetta ...	213
THE RUDDY CRAKE	Porzana fusca ...	217
ELWES'S CRAKE	Porzana bicolor ...	223
THE BROWN AND ASHY CRAKE ...	Porzana akool ...	225
THE WHITEY-BROWN CRAKE ...	Porzana cinerea ...	233
THE MALAYAN BANDED CRAKE ...	Rallina[20] fasciata ...	235
THE BANDED CRAKE	Rallina[21] euryzonoides ...	237
THE ANDAMANESE BANDED CRAKE ...	Rallina[22] canningi ...	241
THE BLUE-BREASTED BANDED RAIL...	Hypotænidia striata[23]	245
THE ANDAMANESE BANDED RAIL ...	Hypotænidia obscuriora[24] ...	253
THE INDIAN WATER RAIL ...	Rallus indicus ...	257
THE WATER RAIL	Rallus aquaticus[25] ...	261

12. Wrongly *Perdicula* on Plate.
13. ,, *coromandeliea* on Plate.
14. ,, *sinensis* on Plate.
15. ,, *pugnax* on Plate.
16. ,, *plumibes* on Plate.
17. ,, *maculosus* on Plate.
18. ,, *jondera* on Plate.
19. Wrongly *Crex baillonii* on Plate.
20. ,, *Porzana* on Plate.
21. ,, *Porzana* on Plate.
22. ,, *Euryzona* on Plate.
23. ,, *Hypotænidia striatus* on Plate
24. ,, *Hypotænidia obscurioria* on Plate.

25. This species is so close to *indicus*, that we have not thought it necessary to give a separate figure.

LERWA NIVICOLA.

THE SNOW PARTRIDGE.

Lerwa nivicola, *Hodgson.*

Vernacular Names.—[Larwa (Bhútia) *Nepal;* Jungooria, *Kumaun;* Quoir-moonal, Koor-moonal, *Garhwál, &c.;* Golabi, Bhair, Ter-tetur, *Busahir and other Hill States;* Barf-ka-tetur, *Kullu.*]

FROM the western boundaries of Bhútan at any rate, (and it probably occurs in Bhútan itself and further east), to central, if not western, Kashmir, the Snow Partridge is to be met with in suitable localities.

It is not rare (although, as everywhere else, it is very locally distributed) in Sikhim, where Blanford notes that it was abundant on the bare slopes of the hills near Yeomatong.

In Nepal again, Hodgson tells us that it is common in all the northern hills. In Kumaun and British Garhwál I have seen and shot many. Further west, Wilson writes to me: "I have observed them most numerous up the valleys of the large streams which enter the Ganges (Bhágirathi) between Sukhi and Makwa, but I have not met with them about Gangotri. Crossing from Sukhi by the Chyuh and Bamasur Passes to Jumnotri they are common, and in the higher parts of Barássu. They seem rather scarce in Kunawar (Busahir), and I did not meet with them in Thibet or any where beyond the snow."

They are to be found, however, and in places very abundantly, all along the snowy ranges north and south of Busahir; and Stoliczka says, "they are not uncommon along the Baralatsi range, and they occur in Spiti, but I have not noticed them further north in Rupshu. They abound in North-Western Kullu during the winter, when they descend from the snowy range somewhat lower down."

I have shot them close to the Rohtang and in the high hills behind Dharmsála. North of Chamba again, there are ranges where they abound; and Adams tells us that they are "occasionally seen on the highest mountains forming the northern boundary of the vale of Kashmir."

Though thus extending in the Himalayas throughout a length of at least one thousand miles, it is but a narrow zone that, as a rule, they occupy. Even in winter they rarely, if ever, descend below an elevation of 7,000 feet, and their habitat is only the

first two or three of the more elevated snow-capped ranges. Snow seems to be a necessity to them; and,though a few do occur, as I have myself seen, in Southern Spiti, broadly speaking you miss them the moment that, crossing the outer snowy chains, you reach the more arid, comparatively rainless, regions of Láhul, Ladákh, and Thibet.

The Karakorum knows them not; neither Turkestan nor Mongolia—all these regions are too arid for them; nor do they appear to extend westward into the apparently more suitable mountains of Northern Persia; but Père David himself killed some in the snowy ranges of Moupin at an elevation of between 11,000 and 12,000 feet. Now Moupin (not marked on any but the most recent maps) is due east of Ching-too, on the borders of China and Chinese Thibet, and in about the same latitude as Simla; and there is good reason to suspect that east of Sikhim the Snow Partridge extends right along the higher hills of Bhútan, and of the tribes due north of the entire valley of Assam, to Moupin, which is only distant between 300 and 400 miles in a north-easterly direction from our easternmost outpost.

It is probable that from Moupin this species runs northwards along the Ta-sué-chan, or Great Snowy Mountains, to near the borders of Kansu.

ALTHOUGH IN severe winters, and after heavy falls of snow, *crowds* of Snow Partridges may be met with at from 7,000 to 9,000 feet elevation, Indian sportsmen, as a rule, never meet with them, except in their summer haunts, at elevations of from 10,000 to even 14,000 feet; and they are so invariably seen in grounds frequented by Tahr and Burrel, that, though one of the very best of Indian birds for the table, they are but rarely shot.

It is generally close up under the snow, amidst grey crags and hoary precipices, or on tiny plots of stunted herbage, girt round by huge boulders and rugged blocks of rock, amidst which the snow still lies thickly, and at an average elevation of 11,000 feet (at any rate from May to September), that this Ptarmigan-like Partridge is to be found.

It is very locally distributed; you may march for a couple of days, continually passing through or near the most likely spots, and never see or hear a bird; and again you may see a hundred in a day's march, or one party, or at most two parties, daily for a week.

Like many others of our game birds, they are (where not worried) tame enough where they are numerous (as if they realized that a few more or less would not endanger the continuance of the race), while, where scarce, they are apt to be shy and wary. Along routes frequented by sportsmen, and after they have been shot at for several *successive* days, I have found

them (*pace* my old friend Wilson, whose remarks I shall quote later) the *reverse* of tame.

In the spring they are usually in pairs, but it is not uncommon to find a dozen such in a couple of hours' walk. Later they are in coveys of from seven to thirty, old and young, and by the end of September many of the latter are almost full grown.

Their flight is rapid and strong, much like that of a Grouse; and if met with in comparatively unfrequented spots, they often afford superb sport. Out of a good covey, you get at first no doubt only a right and left, and even though somewhat scattered, the whole of the birds rise at the second if not the first shot; but though they go off at a great pace and sweep down towards the valley for a while, they soon curve upwards again and alight at no great distance from where you flushed them, and at much the same level as before. If it be a smooth bare hill side, near the limits of vegetation—and you do find them in such places—the same process has to be repeated, and the trudge after each shot becomes longer and longer; but if they alight (then usually much scattered) amongst rocks and stones, where they can squat unseen, you may get half a dozen in single and double shots (the birds often flustering up close to your feet) before the remainder make up their minds to a simultaneous change of quarters.

Glorious sport may be enjoyed after the Snow Partridge. Above, snowy domes and peaks glistening sharp-cut against the blue sky; below, almost *under* one's feet, and stretching away for miles, a sea of green forest; in front, alternate patches of close shaven mossy turf, starred with a few alpine blossoms, and bare slaty slabs, those in the shade still silvered by the morning's frost—all sloping at a frightful angle, and traversed by little silent snow runlets and long streaks of partly discoloured snow, running down tiny gorges. As you halt to reconnoitre and rest a moment, perfect stillness seems to reign around. There are few signs of life; one little yellow butterfly fluttering here and there; by the mossy margin of a tiny trickling rill a few delicately-tinted Horned Larks *(Otocorys longirostris)* and a flock of Snow Chats (*Grandala cœlicolor*), the males glistening sapphire-like against the snow as they dart away on powerful wings. From the depths beneath, the lowing of cattle steals upwards, mellowed by the distance and mingled with faint murmurs from the torrents below; a bee or two pass humming softly; a stone clatters down over the shale; the surging murmur of some distant avalanche creeps along the hill side, and then again a stillness as of death pervades the scene.

Suddenly from the bare rocks in front out rings a loud whistle, and then another, and another; and again all is still. It is not good walking; and just between you and the whistlers stones and snow keep every now and then coming down, as if

preparatory to an avalanche ; you have to mind your feet ; it is impossible to say which is more slippery, the stones or moss, and a single false step would shoot you some two or three thousand feet into the birch trees below ; but the whistle bursts out, not fifty yards away, with redoubled energy, echoing harshly amongst the crags. You push on, half sliding, to a little plateau close to where the whistles sounded ; you scrutinize intently the purplish grey stones in front ; you cough, raise your gun ; still nothing is to be seen. But the dog's eyes, as he stands (his chain held by a Pahári) shivering with excitement, are almost starting from his head ; a look to the man, and the old smooth-haired, liver-coloured setter (ah ! dear companion of many, many happy days !) is sneaking forward, almost like a prowling cat ; but only for a few paces—then he stands immoveable. Again you wait ; a few steps only—and the foothold may be such that firing would be impossible ; a Pahári heaves a big stone a few yards in front of the dog's nose ; *presto !* as if by one impulse, in one lump, with the clatter of a hundred Partridges, up springs a covey ; they rise perpendicularly about three yards, and your first barrel rakes them, dropping three ; the second catches the hindermost bird as they sweep down the hill-side. The first three lie amongst the rocks, the last first touches ground five hundred feet below. But there is no time to think of him. Before the echoes of the shots have died away, a growl, as if of anger at being disturbed, at first low, but growing louder every second, floats down from the peaks above ; a rolling cloud, a confused mist of snow, in which a few black specs are discernable, is coming straight down on you. You reach the birds, when, with a surging swish and mighty clatter, down rushes the avalanche, stray fragments of stone striking, and the skirts of the snow sweeping, even the little plateau whence you fired. A near thing, but the birds have been marked down less than a quarter of a mile ahead, a little higher and in much better ground than that where you found them ; and sending a man and dog down to recover the bird below, you push on recklessly over ground that, at other times, you would cross at a snail's pace, until again the harsh whistle warns you that the game is at hand. And now, if you have luck, you will get, within the space of two hundred yards, from three to six as fine shots, singles and doubles, as ever gladdened the heart of sportsman ; and even if you cannot follow this covey up a third time, you may probably, if you are in one of their head-quarters, find another, and another ; and besides picking off three or four Snow Cocks with a rifle, and possibly (because all the firing in the world will not at times prevent such suddenly cropping up before you) a Tahr or a Burrel, you may take ten to fifteen brace of these splendid Snow Partridges down with you to your camp in the forest below. A few days later, discussing some of these (cooked gipsy fashion) beside

the perfumed blaze of a deodar bon-fire, the most miserable victim of *ennui* would be compelled to confess that there was still something to live for.

I fear I grow prolix; but as I look back upon "the days that are no more" the old enthusiasm wakes. I seem once more to breathe that fresh crisp mountain air—more exhilarating than France's sunniest vintages—once more to feel the thrill that the double thud of the two noble, clean-killed birds sends through one, amidst this glorious scenery and in this champaign atmosphere. And after all, while scores of men go in for and rave about big-game shooting, not one in a thousand have any conception of the splendid sport that the small game of the Himalayas affords; and it would be ungrateful were I, who have enjoyed it so often and so keenly, to pass it by altogether in silence.

But I gladly turn to the practical wisdom of my old friend Mountaneer. He says: "In general haunts and habits, this bird much resembles the Snow Pheasant, frequenting the same high regions near the snow in summer, and migrating to the same bare hills and rocks in winter. The Pheasant, however, prefers the grassy slopes and softer parts of the hills—the Partridge the more abrupt and rocky portions, where the vegetation is scantier, and more of a mossy than a grassy character. They are also more local, and confined to particular spots, and do not, like the Pheasant, ramble indiscriminately over almost every part of the hill. They are generally remarkably tame. When approached, they utter a harsh whistle, and if they keep still, it is often several moments before they can be distinguished, their plumage much resembling and blending with the general colour of much of the ground they frequent. If approached from above, they fly off at once; if from below, they walk away in the opposite direction, calling the whole time, and often cluster together on the top of some large stone in their way. Their flight exactly resembles that of the Pheasant, and the whistle when on the wing being nearly the same, and the birds having the same white on their wings, they could hardly be distinguished, when flying past at a distance, but for their size. They seldom fly far, and if followed and put up again, often fly back to the spot where first found. At times they seem unwilling to get up at all, and several shots may be fired at them before they take wing. I once found a flock on a steep ledge of rock in the forest, a few days after a severe snow-storm, which had driven them down to their winter quarters; they were a little scattered, and resting on the projecting ledges, and I fired eleven shots within twenty yards without one bird attempting to get up. At one bird I fired twice without its moving at all.

"The Snow Partridge feeds on moss and the tender shoots of small plants. It is always fat, and its flesh is tender and

well-flavoured, and, if kept a few days, something like Grouse They breed near the limits of vegetation. I have often met with the young chicks—sometimes a single pair of old birds with their young brood, and sometimes several old birds and two or three broods of chicks—apparently six or seven in a brood. When alarmed, the parent birds exhibit all the distressful anxiety so common with their tribe, and endeavour, by drawing the attention of the intruder to themselves, to decoy him from the spot. They do not counterfeit lameness like some,* but walk away before him and call out in the most plaintive manner. The young squat close on the ground, or creep beneath the stones; for the herbage where they breed is never sufficiently high to hide even the smallest bird.

"The same cause that prevents the Snow Pheasant from being often fired at—that of nobler game being expected near the place—in the like manner protects the Partridge. When once found, no bird can be easier to shoot; and if the ground be favourable, they can be followed backwards and forwards till nearly the whole flock are killed. In spring they will generally be found in places where the snow is still laid in large patches and the herbage just springing up where it has recently melted. After the rains they will be near the limits of vegetation."

VERY LITTLE is known of the nidification of the Snow Partridge. Mr. Hodgson notes that they breed on the ground, near snow level, under jutting rocks. Mr. Wilson writes: "It breeds on the high ridges jutting from the snow, at elevations of from 12,000 to 15,000 feet, when the ground is tolerably broken and roughish, neither very rocky nor on what we call 'slopes.' The hills between the head waters of the Ganges and Jumna, and Jumna and Tonse, are favourite breeding grounds. The chicks have first been observed about the 20th of June."

For *years* he has been vainly attempting to procure the eggs for me—quite recently his people succeeded in obtaining four.

Unfortunately they were hard set when taken, and did not reach him for more than three weeks. The consequence was, that all were cracked, the contents in a state of putrefaction, and the shells so disintegrated, that when placed in water they went to pieces and the colour rubbed off.

"So," says Mr. Wilson, "all we have got is a *sight* of Snow Partridges' eggs. They are very large, intermediate in sizes between those of the Chakor and Koklass: dull white, freckled *all over* with reddish brown, like the Koklass, but without blotches of colour"

---

* I, however, *have* seen them do this, and when close on the brood, the old ones will often let you get within a couple of yards.—A. O. H.

THE SEXES are, I think, precisely alike, except that the male has a small blunt spur. Many old females have a sort of knob or corn where the spur is in the male; and I shot one female (by dissection) that had small, but regularly developed, conical spurs. It is commonly supposed, I presume on the strength of Jerdon's assertion, that the female is smaller than the male. I have measured numbers, and have found some females as large as many males, and some of the latter as small as any females.

The following are dimensions of adults:—

Length, 14·5 to 15·75; expanse, 22·5 to 24·25; wing, 7·3 to 8·1; tail (of 14 feathers), 5·25 to 5·0; tarsus, 1·6 to 1·9; bill from gape, 0·8 to nearly 1·0; weight, 16 ozs. to fully 22 ozs.*

The irides are pale brown, sometimes decidedly reddish; the bills intense red, often a brilliant coral red, not uncommonly (probably the last trace of nonage) smeared blackish on culmen and about the nares. The legs are red, sometimes, chiefly (if I remember rightly) in the breeding season, an intense red, at others duller and dingier. There is no naked skin patch round the eye.

THE PLATE, taken by Miss Herbert from one of Hodgson's drawings, is a most faithful portrait of the species, but I should note that some specimens are greyer and less brown on the upper surface; others have the black bars there broader and more strongly marked, while many have the breast a deeper and more maroon chestnut.

The chicks have the upper parts mottled grey and black; the head, with one black stripe down the middle and one on each side; the breast and belly rufous; bill black; feet flesh colour.

THIS IS the only known species of the genus.

* I have noted several of this weight, and 20 ozs. is, I should say, the average of a good, fat, old bird. I have one bird noted as 25 ozs.; but here there may perhaps be a mistake, as no other, of between forty and fifty weighed, exceeded 22 ozs. and a fraction.

½

FRANCOLINUS VULGARIS

THE BLACK PARTRIDGE OR COMMON FRANCOLIN.

Francolinus vulgaris, *Stephens.*

Vernacular Names.—[Kala titur, *passim ;* Kais-titar (female), *Nepal;* Kal-tittar (Panjábi) ; Tetra, *Native Garhwál;* Vrembi, *Manipur* ; Taroo, *Afghanistan.*]

IF, starting from the estuary of the Hab River, which divides Sind from Beluchistan, we follow the Sind coast line to Cutch ; then hugging the southern coast of this latter,* cross to the mainland between the greater and lesser Runns to Deesa,† and so on skirting the northern bases of Abú and the Arvalis about as far as the Deysuri Pass ; thence draw an imaginary line to Gwalior, and thence another to the Chilka Lake, we shall have traced, with a sufficient approximation to accuracy, the Southern limits of the Black and Northern of the Painted Partridge.

North-eastward of the terminus of this line, the Black Partridge extends through Cuttack and Midnapore to Eastern Bengal, Maldah, Dinagepore, Rungpore, Dacca, Tipperah, &c., to Sylhet, Cachar, Manipur, the Gáro and Khásia Hills, the Bhútan Dúars and the valley and river chars of Assam, at any rate as far as the eastern boundary of the Darrang district.

Col. Graham says : "There is a fair sprinkling of this bird all over the Darrang district ; but further east in Lakhimpur it dies out, possibly owing to the want of grass plains with short grass on them suitable to its habits."

It does not seem to extend to the Nága Hills‡ ; nor is it met with, Messrs. Fasson and Martin inform me, in Chittagong ; and

* Mr. W. Blanford says—J. A. S. B., 1867, p. 200—that he has *seen* the Painted Partridge in Cutch. I can only say that I have received more than a dozen specimens of the Black Partridge from various parts of Cutch, but not one of the painted.

† The areas of distribution of the Black and Painted Partridges are *possibly* a little interlaced in this part. South-west from Jálor, in Jodhpore, the Black is abundant. I have seen specimens shot within two miles of Deesa. Dr. Eddowes shot one only six miles north-west of Erinpura, in a Marwar village. On the other hand, about the base of Abú and at Sirohi and Erinpura itself, it is the Painted Partridge alone that I have seen ; and it is this species alone that is met with throughout the skirts of the Arvalis, on their northern as well as their southern faces, as far up as the Deysuri Pass from Godwar (of Marwar) into Oodeypore.

‡ Mr. G. H. Damant writes : "The Black Partridge is common in Maldah, Dinagepore, Rungpore, at the bases of the Gáro hills, in Goálpara and Manipur, and

we may conclude that in Northern Aracan it is equally unknown. In Pegu and Independent Burma, and further east, it is replaced by the nearly-allied Eastern or Chinese Francolin.

Throughout the eastern districts enumerated, and throughout the enormous tract lying north of the imaginary line sketched above, the Black Partridge is to be found in suitable localities, and this not only in the plains and lesser chains of hills, but in all the lower outer ranges of the Himalayas,* and in the river valleys running far into these, up to elevations, at any rate in summer, of from 5,000 to 7,000 feet.

Of course they are birds of well watered or more or less jungly tracts; and in the semi-desert wastes† of Rajputana they are all but unknown, and almost equally so in the dry level plains of the Doab and Southern Rohilkhand and Oudh, except along the valleys of the larger rivers.

Outside our limits, the Francolin occurs in the better-wooded portions of Southern Beluchistan and in Afghanistan.

The specimen brought from the latter by Hutton was an extremely pale one, but whether this was abnormal or is characteristic of a local race is uncertain.‡

" It is found," says Major St. John, " in the warm plains of Southern Persia and the damp forest regions of the Caspian, but not very abundantly in the latter. Its northern limit is about Lankoran. Westwards, it is found in great nnmbers in the tamarisk jungles and reed beds of Mesopotamia."

Westwards, again, it still occurs in many places in Asia Minor and Palestine, and is tolerably abundant in Cyprus.

Formerly it unquestionably inhabited parts of Spain, Sicily, Sardinia, Tunis, Algiers, and many of the Islands of the Greek Archipelago; but civilization has in all these countries been too much for it, and its sole and last remaining *pied à terre* within nominal European limits is Cyprus, which, for my part, I should rather include in Asia.

It is in the valleys of our larger rivers, where population is not very dense, and where high grass and tamarisk (*Jhao*) jungle are interspersed with cultivation, that the Black Partridge will be met with in greatest abundance. In such localities—and many such exist to this day, despite railways and breech-loaders—fifty brace may still be bagged in a single day by a

---

occurs, though not very commonly, in Cachar. I have not heard of it in the Nága Hills. Mr. Cowley tells me it is unknown at Sadiya and Dibrugarh. In Manipur it is very abundant.

The Black Partridge affects well-raised dry ground covered with light grass, and is in Bengal generally shot from the howdah; in Manipur very good sport may be had on foot with dogs or beaters. This species is always found in couples and never in coveys. It breeds throughout Bengal.

* At any rate from the Indus to the Teesta, though much rarer in the extreme north-west. Whether they extend into the Bhutánese Himalayas I cannot say.

† *e.g.* Almost the whole of Jodhpore, Mulani, Jeysulmere, Bickaneer, &c.

‡ A precisely similar bird has recently been shot in Sind by Mr. Doig.

single sportsman, and in past times 60, 70, and 80 brace have been thus brought to book.

Near Lálpur and Jewar-Sirsanuh in the Kádar of the Jumna, close to where the Bulandshahr and Aligarh districts join, Meyrick of the Canals, Home, later the Hero of the Kashmir Gate (his bright career too early closed by the fatal explosion of Malagarh) and myself, in six days bagged 177½ brace, besides nearly a hundred brace of Quail, Snipe, Ducks of sorts, Cranes, Sand-Grouse, &c.

In Upper India it is just before the wheat ripens in localities such as I have indicated, and where the fields are all divided by broader or narrower belts of lofty grass, that the best sport is perhaps afforded. You drive with a good line of beaters all the outlying patches, then beat the belts, and then work the standing corn slowly and quietly, as you would thick turnips. In the dense wheat of these Kádar lands, the Black Partridge, never *much* of a runner compared to the Grey or the Chakor, cannot run at all, and will not rise until you are within easy shot ; and in a plot of two or three acres you may kill a dozen brace.

Or, again, they offer very pretty sport when shot from an elephant. Around you is one waving sea of silvery-feathered grass, in which you only here and there for a moment catch a glimpse of one of your close line of beaters ; the dogs you hear from time to time, but never see ; dotted about are tiny green islands, the tops of tamarisk bushes or little clumps of these struggling up to the sunlight and fresh air through the tyrannous, all over-powering grass. Every few paces, now almost from under your elephant's trunk, now 20, 30, 40 yards away, right or left, up springs a Partridge, perpendicularly till he is about a yard above the grass, and then skims away with a straight strong flight. Here and there a Quail is flushed ; a Parah (Hog Deer,) as you guess, breaks, and firing by the waving of the reed, perhaps you arrest his course, possibly, as once happened to me, to find, *horribile dictu*, that you have *shot* a mighty boar. Continually Black Buck and Chikara hurtle through the grass ; at times a Pea-Fowl, or, happy chance, a brood of Pea-Chicks, flusters up ; but these are all kickshaws, incidental and extrinsic delicacies, the real *pieces de resistance* being the Francolins, who go on all the while rising steadily, almost as if by clock-work, till, weary with the slaughter, you cry " hold—enough !"

Black Partridge are very easy to shoot under these circumstances, if you are used to howdah-shooting. I have known the late Col. Congreve to kill six running with ball from a smoothbore ; but some people never can shoot with a gun off an elephant.

But though they prefer such localities, and the water and lowlying lands do seem a great attraction to them, numbers may be found in widely different localities, as, for instance, in the scrub bush jungle about the bases of the Mewât hills (the northern

horn, if I may use the word, of the Arvalis) in the Gurgaon district, where every place is as dry as an old bone.

Again, you may find them in fields of *all* kinds, irrigated or not—young mustard fields especially, if the environment be suitable, being favourite resorts.

But whether in hills or plains, you need never hope to find more than a straggler or two, unless there be in the immediate neighbourhood thin forest or jungle of some kind, be it brush, tamarisk, stunted date, grass, reed or rush.

The only exceptions that I have known to this rule have been in parts of the country where great quantities of sugarcane are grown; and here, if there be any permanent forest or jungle within 20 or 30 miles where this Francolin is common, they will migrate to the cane for a season when it gets high enough, and take up their quarters in it as if it was a natural jungle.

Wherever you may be, you need never remain a second day in ignorance of the proximity of Black Partridges. By the earliest dawn, their clear, far-reaching, cheerful call, syllablized in a score of ways by Natives and Europeans,* rings out through the fresh morning air; and as soon as it is light enough to look about, you will, by silently following the sound, have little difficulty in discovering some, at any rate, of the vocalists, each posted on some convenient little eminence—a clay fence, an old post, a rock projecting from a hill side, an ant hill—any raised place, in fact, except a bush or tree, on one of which *I myself* never yet saw this bird perch.†

No doubt they call most during the cold weather and breeding season, but even in the autumn the bird is not quite silent. In March it is vociferous to a degree in the early morning; and, though, as the sun gets well above the horizon, the concert ceases, it may be heard occasionally, especially if separated from its mate,

---

*"Be quick, pay your debts," is about the best English version. "*Subhan, tere kudrut*" (Oh! Omnipotent One, thy power *who shall fitly describe?*), the most popular amongst Muhammadans. The Muhmmadans, by the way, have a beautiful superstition that all birds and beasts welcome the dawn with some prayer or thanksgiving to the Creator. There is a good deal about this in the *Markaz Insan O Kheiwan*, a translation, I think, of the *Ahwani Suja*. But to return: Other natives render it, "*juk-juk, tee-titur.*" "Lehsan, *pidj*, adrakh" (garlic, onions, ginger), is also much approved. Adams calls it *whee-wha-whĭch-a-whĕek, &c., &c.* But as a fact the call has a semi-metallic ring, which is its leading character, and which no words can reproduce, though I have heard natives imitate it to perfection with a sort of whistle. Mr. Brooks says:—

"The descriptions given by some writers of the call of this bird are absurd. It could not be spelt. It is similar to the call of the Common English Partridge, but has five notes instead of two, the three last being rapid, while the two first are somewhat deliberate. It is a hoarse crow followed by a chuckle of three notes. It generally crows from some little eminence or mound, but I have frequently seen it doing so from a detached tree in the jungle. In the latter situation it is very difficult to approach. It sits, not on the top of the tree, but on one of the larger branches."

† But it does, at times, thus perch, as Mr. Brooks attests the fact, and as may be seen from Mr. O. Greig's note quoted further on; and Mr. Young, writing from Kullu, also says: "I once saw this Partridge perch in a cheel tree, at Serai Chungus on the Bhimber route to Kashmir. Not being at that time used to perching Partridges, I shot it to make sure of the species."

calling at any hour of the day, and frequently once or twice just as it is settling itself for the night.

As the morning thoroughly brightens out, all the birds disappear into fields, long grass, or jungle, where they peck about, feeding on insects of sorts—larvæ, white ants and their eggs, small coleoptera, grain and seeds of all kinds, and tender shoots of grass, mustard, and many sorts of herbage. When in the neighbourhood of villages, I fear that, though not so utterly depraved as Grey Partridges, they are yet not by any means scrupulously clean feeders ; but when shot in large jungles, far away from human habitations, they may be eaten without hesitation ; and although neither very tasty nor gamey, the flesh is white and sweet, and if cooked gipsy fashion, they will be found, with good bread sauce, a very welcome addition to the camp bill-of-fare.

At times you may come upon a pair in the middle of a field that have been scraping in the ground and dusting themselves like domestic fowls ; and in damp weather, I mean during the rains, I have found them sunning themselves on sandy ridges in the midst of clumps of Sarpat grass, their bodies comfortably pillowed in little hollows which they have worked out for themselves, and one or both wings slightly opened.

They are never found in coveys, except just after the breeding season ; the young very soon learn to shift for themselves, and by November, I think, separate from their parents. Hundreds may be found in the same immediate neighbourhood, but all in pairs, and each pair acting independently.

They are monogamous, and, I suspect, pair for life ; and hence perhaps the rarity amongst them (if indeed they ever occur) of those furious conflicts, so common amongst the males of most of our game birds, for the good graces of their ladies. After all they are only birds ; and all having wives of their own, their little rudimentary minds are incapable of grasping the manly predilection for possessing themselves of their neighbours' spouses.

I should notice that in different localities the habits of this species vary rather markedly ; in some places Blacks run almost as badly as Red-legged Partridges at home, and seem unwilling to rise—in others they take wing freely and scarcely run at all. Again, in some places, although there may be numbers, they are so wary and lie so close that you rarely catch a glimpse of one until it rises, while in other parts of the country you see them scuttling about everywhere, and running backwards and forwards across the road or path in front of you, as tamely as Pheasants in many parts of Norfolk.

The following note, sent me by Mr. O. Greig, touches on several points of interest :—

" The Francolin is not a prolific breeder. I hardly ever remember to have seen more than three young ones in a brood.

Probably, being a ground bird, the young are killed by stoats, jackals, and other vermin, and the mother is not of sufficient size to defend them. It seems to have a second brood sometimes.

"It remains entirely on the ground, as a rule, except the cock when calling, when he will at times get on to a stump or ant hill; but up the Tonse Valley, and in the Rama Serai, in Native Garhwál, I have seen them high up in chir trees (*Pinus longifolia.*)

"From its breeding so slowly it is easily shot off, and I have known a place almost cleared in one season. The Western Dún has been served in that way. Formerly 25 brace could be bagged there, but now, if a man flushes five brace in a day, he has done well.

"All sportsmen who like Black Partridge shooting should kill all vermin they see about its haunts.

"This bird gets tame readily, and even when caught full grown, will eat the day it is caught. It affords some of the finest sport of all small game, and with steady dogs one may have grand shooting. It may be found in all crops, but especially in cotton fields freshly sown, wheat, rice and mustard, and in wild hemp. It runs a good deal at times, but will lay like a stone if headed; it is never found far from grass jungles.

"Some hens have spurs of the same size and shape as the cocks.

"It is kept tame by the natives, and used for the capture of wild ones in the breeding season. The mode of using it is to put it in a cage out near wild ones in the pairing season and to set snares round the cage. The tame ones then call up the wild ones, but only cocks are caught in this way, and the tame one must be a young one reared by hand, as if caught when old it will not call.

"Netting is largely used to capture this bird, and on one occasion I wanted some birds to stock a bit of forest, and a man caught two score of birds in a very short time.

"I never heard of this bird being used for fighting; it is merely kept as a call bird or as a pet."

ALTHOUGH IN THE autumn and the early part of the cold weather individuals of this species, young birds especially, straggle considerable distances from the jungles that constitute their homes, still, broadly speaking, we may say that the Black Partridge is a permanent resident and breeds wherever it occurs. The only thing approaching migration that I have observed in the case of this species, is the upward move which many of them make in the Himalayas and other lesser ranges in spring. In the winter I doubt if many Francolins would anywhere be found above an elevation of 3,000 feet, while during the summer,

in the Himalayas at any rate, they are common at 6,000 feet; and I *have* shot them a thousand, and indeed perhaps fifteen hundred, feet higher.*

They breed, therefore, from an elevation of at least 6,000 feet down to nearly sea level.

They lay mostly, I think, towards the end of June and during the first half of July; a few lay somewhat earlier and later (I have found eggs in August). They make their nests on the ground in tamarisk or grass jungle, or in any thick crop near these that may be standing (and there are few such) at that season; of these, the small millets reaped in some parts of the country in July are perhaps most often resorted to.

The nest, composed of grass and grass-roots, dry bamboo, grass-flag, or sugarcane leaves, is sometimes very slight and loose, sometimes neater and more substantial; usually it is placed in a depression hollowed out by the bird, and again, not unfrequently, there is scarcely any nest, only a lining to a hollow. It is always perfectly concealed, and without good dogs hard to find.

They lay, according to my personal experience, from six to ten eggs. At any rate I have never known more to be found, and in former days, when shooting in the Ganges Kádar and the Tarai in the hot weather, the beaters and dogs used to find nests daily; and in the hills also I have seen many.

Captain Hutton remarks:—"This is a common bird in the Dún, and by no means rare in warm cultivated valleys far in the hills. It breeds in the hills in June, and a nest taken by a friend, on whose accuracy I can rely, and who shot the old bird, contained six eggs of a dull greenish white colour. The egg appears very large for the size of the bird, and tapers very suddenly to the smaller end."

Dr. Jerdon says:—"The hen Partridge breeds from May to July, laying ten or twelve eggs (sometimes, it is stated, as many as fifteen†) of a pale bluish white colour, according to some writers; but those I have seen were pale greenish when first laid; and she usually has her nest in the grass, sometimes in an indigo field, and occasionally in a sugarcane field."

Mr. Cripps writes to me:—"I found a nest in the Western Duárs on the 16th July, containing five perfectly fresh eggs. At the foot of a tuft of grass was a hollow of the size of a soup plate, which the birds had partially lined with roots and blades of grass, and in this were laid the eggs. All around was a dense growth, three feet high, of grasses and weeds. The ground

---

* Writing from Kullu, Mr. Young says: "In one of the lateral valleys of the Parbutti, however, it is found on a sloping plateau in Herkundi Kothi, at an elevation of fully 7,000 feet.

† Although frequently laying as many as ten eggs, at any rate, I agree with Mr. Greig that it is extremely rare to see any thing like this number of three-parts grown birds with the old ones. I *have* seen six or seven, but I dare say three or four would be nearer the average of three-parts grown broods.

had been once cleared during the preceding months, and I was re-clearing it to plant tea—a large body of coolies were hoeing, but in spite of the noise these made, the female remained on the nest until a man almost touched her, when she flew off and disclosed the eggs."

Typically, the eggs are what I should call sphero-conoidal in shape, that is to say, broad blunt cones based on hemispheres. In colour, at times, and in shape, as a rule, they closely resemble specimens of the eggs of our Common English Pheasant (*P. colchicus.*) They are of course smaller, but by no means so much so as the relative difference in the sizes of the two birds would lead one to expect. They are moderately glossy and perfectly unspotted, and the colour varies from a slightly greenish to a brownish fawn colour, or in some, as I ought perhaps to call it, stone colour. Some of the eggs might perhaps be best described as drab coloured, while occasionally a clutch, such as one I have recently obtained, is a rich brownish *café au lait* colour.

The eggs vary greatly in size—from 1·36 to 1·8 in length and from 1·18 to 1·38 in breadth, but the average of 70 eggs is 1·56 by 1·28.

BUT IF the eggs vary greatly in size, so do the birds. Comparing the giants of the moist, river-bed grass and tamarisk jungles with the dwarfs of the high uplands and dry scrub jungle, one could scarcely accept them as belonging to the same species. I have shot adult males in good condition in the Gurgaon scrub weighing only 10 ozs. (though they average about 13), and I have shot others in the Kádar of the Ganges in the Meerut district, weighing fully 20 ozs.

The birds of Asia Minor are supposed to be larger than our Indian ones, and *possibly* they may *average* larger, but I have measured Indian specimens quite as large as those from Anatolia, of which Dresser gives the measurements :—

Males.—Length, 12·75 to 14·8 ; expanse, 18·75 to 21·7 ; wing, 5·75 to 6·7 ; tail from vent, 3·45 to 4·4 ; tarsus, 1·6 to 2·0 ; bill from gape, 1·0 to 1·27 ; weight, 10 to 20 ozs.

Females.—Length, 12·25 to 14·0 ; expanse, 18·5 to 21·6 ; wing, 5·7 to 6·7 ; tail from vent, 3·38 to 4·1 ; tarsus, 1·5 to 2·0 ; bill from gape, 0·9 to 1·19 ; weight, 8 to 17 ozs.

These are the extremes of a very large series of measurements, and somewhat obscure the fact, that in each locality, and dealing with adults only, the females do average perceptibly smaller and lighter than the males.

The irides are deep brown ; the bill, in the male, black, pale horny at the extreme tip of the upper mandible. In the female dusky brown, tip of upper mandible paler ; gape and base of lower mandible whitish or fleshy ; the legs and feet vary from reddish brown to orange and orange red, and are duller in the female ; the claws horny black ; the spurs of the male horn

brown. Very rarely the females also have regular spurs, and old females often exhibit blunt tubercles where the spur would be in the male.

THE PLATE is, I think, extremely good. A "middle-aged" male is depicted ; in younger birds there is much more, and in very old birds much less, white spotting on the neck and lower parts. In some males the white patch under and beyond the eye has a buffy tinge, and in some the collar is more of a maroon. The amount of markings in the female also varies a good deal according to age, and generally in both sexes much variation exists in the details of the plumage; but our plate exhibits fairly representative specimens.

Old and (?) barren hens sometimes assume more or less of the cock's plumage. I have shot two or three such birds myself, and several correspondents have also noted the fact. The young males are like the females for the first year, and more or less intermediate for the second. They do not get the full plumage, I think, until the third year, and I believe that for at least three years after this they continue to drop the white spots from the black.

Albinos and partial albinos of this species are not very uncommon. I have shot at least a dozen such myself, and have had many sent me.

Mr. Hodgson obtained an albino, said to be from the *higher* regions of Nepal: a sort of delicate lilac grey; the ear-coverts and body spots greyish white; the back, rump and upper tail-coverts barred as usual, but with greyish dusky; but the broad neck ring dull chestnut, and the lower tail-coverts bright ferruginous chestnut. Hybrids between this and the Southern Francolin also occur. We have figured one such along with the Eastern Francolin.

½

FRANCOLINUS PICTUS.

THE PAINTED PARTRIDGE OR SOUTHERN FRANCOLIN.

Francolinus pictus, *Jardine and Selby.*

Vernacular Names.—[Kala titur, (Mahrathi); Titar, *Poona, Satara, &c.*; Kakera Kodi (Telegu).]

THE line indicated, when discussing the distribution in India of the Black Partridge, as marking with a close approximation to accuracy the southern limits of that species, may be equally accepted as defining the northern extension of the Painted Partridge.

South of this line, in Káthiáwar, and close to Deesa itself, in Guzerat, Baroda, the Pánch Máhals, Khandesh, the Central India Agency, and Bundelkhand, Jhánsi, Saugor and the greater portion of the Central Provinces (including the Eastern Feudatory States) and Berar, in the Nizam's Territory, the Bombay Presidency generally south of Khandesh, almost to its southernmost limits, and the central and northern portions of the Madras Presidency, this species is widely, but very locally, distributed.

Captain T. M. Ward tells me that he has shot it at Kalyán and on the island of Salsette, but that it is absent from the Southern Konkan, Goa, and from the greater part of North Kanara, "where," writes Mr. Elphinston, for many years there stationed, "except along its eastern border, the forest is too thick both above and below the Gháts."*

It also avoids the western portions, at any rate, of the Poona and Satara districts, though in the eastern portions of the latter, *viz.*, Tásgaon, Khánápur, and Jath, it is, Mr. Vidal says,

---

* On this head, Col. Peyton, for years the crack shot of the Southern Mahratta country, writes to me :—

"The Painted Partridge is found in Kanara in the grass and low jungle along the Kanara border, touching the Belgaum, Dharwar and Mysore open country. I have never seen it below the Gháts or in heavy forests, neither have I seen it along the Gháts anywhere except on some rather extensive old *Kumri* (*i.e.* cultivation by burning down the jungle) tracts in the Sirsi and Siddápur Talukas that are bare of everything save grass. There it is most unmistakably to be found, and along the very crest of the Gháts too, as any one acquainted with their peculiar call and habit of getting up into solitary trees or rising places to send forth their challenge would at once discover if passing along in this direction in March."

pretty common, as it is also in suitable localities in the Sholapur district.

Southwards again, it does not appear* to occur much west of the Trunk Road running from Kolhápur, *viâ* Belgaum and Dharwar to Sirsi; nor, in this direction, do I know for certain of its occurrence beyond about six miles south of Sirsi.

In the Madras Presidency, I learn from Mr. Huntley P. Gordon, Mr. Cardozo, and Captain Bellis of the 13th L. I., that in the Bellary district it has only been observed about Rámandroog and the Saudur jungles. Mr. Cardozo adds that he has shot it in the Anamalai Hills of the Kurnool district, in the Gódávari and Nellore districts.

Mr. Egan again says that he has shot it in the Cuddapah and Nellore districts on both sides of the Eastern Gháts.

It appears also to occur in hilly semi-jungle country, and where there is much grass in the Kistna, and other more northern districts right up to the Goomsur taluka of the Ganjam district.

It seems almost entirely absent from Mysore. Jerdon had heard of its being obtained near Bangalore, but I have obtained

---

* For the following valuable note on this point I am indebted to Captain T. M. Ward :—

"The bird appears to be a lover of a semi-jungle country, but so far as I have observed, it does not extend westward beyond a well-defined line, which I will mention further on.

"I do not know anything of the country between Poona and Satara, or Satara and Kolhápur, but I have often been told that the bird abounds about the latter place, and I know it is found near Belgaum. I have heard and seen it along the road from Belgaum to Dharwar, the whole way, and in the compounds of Dharwar itself; and to the west of the station it is very common. So it is along the whole of the western side of the Dharwar Collectorate, but it seems to extend very little further east than the limit of rice cultivation and the edge of the jungles.

"From Tadas (old style Turrus) to Mundgod, and at Mundgod itself, and down to Pála, I have found it. It is also to be met with close to Sirsi, and a few miles south of that place, along the Sirsi and Siddápur road; but I am pretty sure that it does not extend further to the west, or at all events very little, than the made road from Tadas to Sirsi. I have camped at four or five different places near the road from Sirsi to Yellápur, and never seen or heard it there, nor at Kirwatti, where I have often been on shooting expeditions, though I should think the latter place, which is only just beyond the Dharwar frontier, would be but little out of its range.

"The line which it seems to have chosen then, is from Kolhápur to Sirsi, along the Trunk Road *viâ* Belgaum and Dharwar, and I think I may say but little west of that road, and I believe too, but little east either, as a rule. But in this matter a good deal depends on soil and cultivation. It does not appear to like black soil, and it seems to be necessary to its existence that water and bush cover should be abundant."

On this latter point Mr. Vidal remarks :—

"Captain Ward says it avoids black soil, but at any rate it is found in Tásgaon in the middle of the cotton country, and mostly in sugar cover." He adds :—

"*Siddápur* is just 20 miles south of *Sirsi within* the Kanara boundary.

"*Pála* is 21 miles north-east of *Sirsi;* also *in* Kanara.

"*Mundgod* is 14 miles due north of *Pála,* also *in* Kanara.

"*Kirwatti* is 30 miles north of Sirsi, also *in* Kanara.

"*Tadas* is 18 miles north-east of *Mundgod,* and 30 miles south of Dharwar, and is in the Dharwar district.

"All these places, except Tadas, are on or close to the boundary between Kanara and Dharwar or Mysore, and as I am told are *open* country like the Dharwar districts and *not* jungly country like Kanara generally."

no confirmation of this. Mr. Davidson, C.S., tells me that during a residence of nine months at Túmkúr, only 50 miles north-west of Bangalore, he neither saw nor heard it. Captain T. M. Ward says: "It is strange that the bird should be almost unknown in Mysore, but such is the fact. I myself was for years in the Mysore Territory, two years in and near Bangalore, and three in Shimoga, and I never met it. I am quite confident that there was not a single specimen in any part of the country of which I did the survey, and I well remember being told by Major J. W. M. Anderson, than whom no more observant sportsman could be named, that he had only come across the Painted Partridge once in any part of Mysore, and then only in small numbers. I think, but I am not quite sure, that he said that this was in the north-west corner of Mysore, just beyond the Banvási of Sirsi."

South of Mysore, however, it re-appears in the northern and central portions of the Coimbatore district, and this appears to be the southernmost portion of its range.

Mr. A. G. Theobald writes: "I have not seen this species further south than latitude 11°55″ north, about the jungles called Nuddacovil between Collegal and Bhaváni in Northern Coimbatore. I have never heard the call of the bird in South Coimbatore, Malabar, Tinnevelly or Madura, or south of Salem, although I have been all over these. It can be heard in several parts of the jungle of the Collegal Taluk."

This species is purely Indian, and occurs nowhere outside our limits.

The Painted Partridge, though clearly the southern representative of the Black, the female of which moreover it closely resembles, differs from it a good deal in habits, being much less addicted to the high grass and tamarisk jungle of low-lying damp lands, and being far more arboreal in its habits.

It abounds in the dry fields of the Deccan, far away from any forest or jungle, and especially in fields about which trees are dotted, along nallas densely fringed with acacia trees, in dry uplands covered with scrub jungle, and generally broken hilly ground, where bushes and trees are plentiful. The *Beerhs*, or grass and tree preserves, in the Bombay Presidency are favourite haunts. Black Partridges may be found further north in similar situations, but *their* favourite resorts are damper, lower-lying, and more jungly tracts, where, so far as my experience extends, the Southern Francolin would scarcely be met with.

The Black Partridge roosts on the ground, and but rarely perches on trees. The Painted Partridge often, if not generally, roosts on bushes and trees, whence I have shot them after dusk, and have disturbed them before dawn. In the mornings and evenings the *cocks*, at any rate, may, *always* in some districts, be seen perched on trees; and though attention is less often drawn

to these, as they sit *inside* the trees and do not call, (while the cocks sit in some conspicuous place and are very noisy, especially during the breeding season,) I have on several occasions shot females also in and out of trees and bushes. I know that this has been questioned, and perhaps in some places they are more, and in others less, arboreal ; but I have myself seen them in trees too often to doubt that in some localities, at any rate, they greatly affect these. Many others notice the same fact. Writing from the Central Provinces, Mr. R. Thompson remarks :—

"The cock, at any rate, is eminently arboreal, frequently selecting a branch forty feet high as a perch from which to call. It is quite the exception to find this bird at the breeding season, and whilst calling, elsewhere than perched on the topmost branch of some tree. Many, I know, have an idea that the Painted Partridge seldom perches, but this is an entire mistake, as might be demonstrated any morning here in the home of these birds."

Mr. A. G. Theobald says :—" This species calls extremely late in the evening and early in the morning. I have invariably flushed them from low bushes and trees, to which they always resort at nightfall. The call sounds very much like the words "*Shaikh jurreed kunkur.*"

Of course they may often be seen and heard calling from rocky points, ant-hills or other earthy eminences ; it is not supposed that they resort exclusively to the tops of trees and bushes ; I only think that, as a rule, they prefer these as (to use the native phrase "*mimbar*") pulpits.

Mr. Laird writes :—

" In Belgaum you are almost certain to find this species in any fields well studded with trees. It is perhaps most abundant in the black sugarcane soil, which is generally well sprinkled over with *kekar (Babul)* trees. Broadly speaking, it does not occur west of Belgaum, the ground not being suitable.

" It is very fond of perching on trees in the morning and evening, when it may be seen high up on these uttering its peculiar cry.

" The best season for shooting these birds here is at the commencement of June, just before the rains, when the young sugarcane, which they greatly affect, is about two or three feet in height. The bag is generally a mixed one of Quail, Grey and Painted Partridges, with perhaps a Likh or two. Seven or eight brace of Painted Partridges, with fifteen brace of Quail, &c., would be here reckoned a good bag for one gun at that time of year."

Mr. J. Davidson remarks :—

" This Partridge is fairly common in Sholapur and in Satara, but is very local in both districts, the birds being only found, as a rule, in villages containing grass reserves or sugarcane plantations. There are exceptions to this rule, however. I remember one village in Sholapur, in particular, which contained no single

garden or plantation, and had no grass reserve within two miles of it, but a nalla fringed with *Babul* jungle ran through the whole village land, and along this nalla there were numbers of Painted Partridges.

"In the Pánch Máhals I heard this Partridge calling in considerable numbers during the rains, and it is probably pretty common there."

"In the eastern portions of the Poona and Satara districts small patches of sugarcane in the neighbourhood of nallas are," as Mr. Vidal writes, "the places, *par excellence*, in which to find and shoot the Southern Francolin, and here, with good dogs to flush them out of the cane (a rather troublesome matter without dogs), they afford excellent sport."

And equally in low scrub jungle on broken and rocky ground, and in standing crops in the neighbourhood of this, especially in the immediate vicinity of perennial streams, in parts of Gwalior, Jhánsi, Narsinghpur, Jubbulpore, &c., very pretty sport may be had. They run more than the Blacks, but after running some distance, generally conclude to squat, and then lie well; but to ensure a good bag in such situations, a *long* line, several guns, and dogs to recover winged birds, are necessary.

They are as easy to shoot as an English Partridge, but they fly faster and take a harder blow to kill outright than the Black.

The call of the male, heard at all seasons, morning and evening, but only rarely during the autumn and the early part of the cold weather, is quite distinct from that of the Common Francolin, although of somewhat the same character. People syllablize it in a variety of ways (*Chi?-kee-kerray—Tee-tee-teeturay, &c.*), but it has a pitch and ring not within the compass of the unaided human voice, although with a cut reed and a *lota* of water it may be fairly imitated. They begin calling even earlier in the morning, and call on till later in the evening, than do the Common Francolin.

The food of the Painted Partridge is much the same as that of the Black—insects and grubs, grain and seeds, and tender shoots and buds of grasses and weeds of many kinds, constitute its normal diet, the larvæ and eggs of white ants being special favourites; but in the neighbourhood of villages it is often, like its northern congener, a foul feeder, and is never, I think, so good a bird for the table.

Like the Black, it is generally to be found in pairs; very rarely two hens and one cock may be met with together apparently belonging to the same party, and possibly it is not so strictly monogamous as is the Common Francolin. It is never seen in anything approaching a covey, except during the autumn, when an old pair and four or five nearly full-grown young birds may at times be flushed almost *en masse*.

It seems to work hard for its food, and you may watch it in young wheat, scratching about in the ground vigorously, or

towards noon-day dusting itself, fowl-like, in the dry, finely pulverized soil, every now and then uttering a low double chirp. In such places, too, when the sun is hot, it will be met with basking in the little hollows that it has scraped in the ground. In fact, I have sometimes found it basking thus, quite in the open, though surrounded at short distances by bushes.

It is one of the least pugilistic of game birds, is easily caught in Quail nets, and very soon becomes extremely tame. It makes a very gentle and affectionate pet, and even though five or six of different sexes may be confined together, they always seem to live in perfect harmony.

THE PAINTED PARTRIDGE is a permanent resident, and breeds pretty well wherever it occurs, although it no doubt changes its ground a little in its own particular neighbourhood, as the supply of food varies.

Its nest is placed on the ground, usually under the shelter of a thick tussock of grass, or some dense bush, but at times under an overhanging rock, and not uncommonly it is in the midst of standing crops, particularly sugarcane. It is a saucer-shaped depression in the soil, scratched out by the birds, and more or less thinly or thickly lined with dry grass, roots or sugarcane leaves—in fact whatever material of this nature may be most readily available.

The nest is not easily found without the aid of dogs; and the female sits so close, that you may pass within a yard of her, when on the nest, without her moving.

Five to eight eggs are, I believe, the full complement; but I have heard people talk of finding ten and twelve in a nest.

The laying season lasts in different localities from the end of June to nearly the end of September, but the majority of eggs are, I believe, laid in August.

Writing from Amráoti (Berar), Mr. J. Aitken says:—"The Painted Partridge breeds during the monsoon. Shortly after the commencement of the rains, the birds may be heard calling loudly all over the fields, which are then covered with the young crops; and the greatest number of eggs are laid during the months of August and September. The nest is usually to be found in strips or isolated patches of grass and bush between cultivated fields. Five is the largest number of eggs which I have known to be found in one nest."

Writing from Jhánsi, whence he sent me many of their eggs, Mr. F. R. Blewitt remarked:—"This species breeds from the middle of July to September. The nest, which is usually placed on the ground in a slight excavation and under the shelter of a bush or thick patch of grass, is made of roots of grass and grass itself loosely put together,—quite a common made nest.

"The regular number of eggs is about seven or eight, in colour of a smoky white generally, but when fresh-laid they are of a light reddish white, gradually changing to smoky white as incubation proceeds.

"From the moment they leave the eggs, the young brood commence their peculiar cricket-like chirrup, and when they run it is not with the head erect, but inclined forward on a level with the body."

The eggs of this species are like those of the common *Francolin*, typically very broad and obtuse at the large end and much pointed towards the small end. They are, however, even more of the peg-top shape than these latter, the large end being flatter and less spherical. In size they are very much smaller than those of the Common Black Partridge, as indeed are the birds themselves. The colour varies a good deal; some eggs are drabby white with a very faint greenish tinge; others are brownish drab, others cream colour, and some pale *café au lait*. They are spotless and somewhat less glossy than those of the preceding species.

In length they vary from 1·3 to 1·48, and in breadth from 1·1 to 1·25; but the average of a score is 1·4 by 1·18.

THIS SPECIES does not vary in size as much as the Black does. I have measured a good many myself and have had records of measurements sent me from many places. Neither can I say that I have been able to discover any appreciable difference in size between the two sexes.

The following is a *resumé* of the dimensions of adults:—

Length, 11·0 to 13·0; expanse, 17·0 to 19·5; wing, 5·3 to 5·8; tail from vent, 2·6 to 3·55; tarsus, 1·5 to 1·75; bill from gape, 1·0 to 1·13; weight, 8·5 ozs. to 12·7 ozs.

The bill blackish or deep brown in the male, a little paler or fleshy or greyish white about the gape and base of lower mandible. In the female the bill is dark brown, the tip of the upper and the greater portion of the lower mandible much paler, often yellowish white or pale fleshy horny.

The irides deep brown; the legs and feet reddish, yellowish red, or in younger birds yellowish fleshy.

Note that in this species *neither* sex ever has *any* spurs, although Jerdon gives as one of the characters of the genus, "tarsi of the male with strong but blunt spurs."

THE PLATE is, I think, all that could be wished for, although the legs are generally rather redder than they are there represented.

I mentioned before that hybrids between this species and the last occur. Captain Butler shot 6 or 7 such near Deesa, close

4

to which both species have been procured. These hybrids are considerably larger birds than the pure-bred Painted Partridge, as will be seen from the following particulars which Captain Butler recorded of two of them :—

Length.	Wing.	Tail.	Bill at F.	Bill at G.	Expanse.	Sex.	Locality.
13·25.	5·75.	4·0	0·87	1·06.	20·0	♂	Deesa, 2-8-76.
13·75.	6·12·	4·0	1·0	1·06.	20·5	♂	

"Irides very dark brown ; bill black ; legs and feet yellowish salmon."

One of these hybrids has been figured on the same plate as the Chinese or Eastern Francolin, but its distinctive characters have hardly been sufficiently clearly brought out there ; and I may mention that it differs from every specimen of *pictus* that I have seen, in having (1) a marked black line from the nostrils to the anterior angle of the eye, and again from the posterior angle backwards over the ear-coverts ; (2) in having a large black patch on the breast ; (3) in having distinct traces, all round the neck, of a broad chestnut collar ring ; (4) in its larger size generally and larger bill in particular ; and (5) in having the throat densely spotted with black—moreover all round the neck, and on the breast (outside the patch) and abdomen there is more black than in any *pictus* that I have seen.

On the other hand, the bird as a whole is more of the *pictus* than of the *vulgaris* type, and has the lores (below the dark line), cheeks, ear-coverts, and the broad stripe over eyes and down the sides of the neck, the same uniform bright rufous fawn that *pictus* has ; the upper back as in *pictus*, and generally, though differing in the particulars above referred to, the whole plumage is of the *pictus* type.

F. Waller, Chromo Lith. 13 Hatton Garden, London

HYBRID_ ½
BETWEEN FRANCOLINUS PICTUS & FRANCOLINUS VULCARIS.

FRANCOLINUS PHAYRII

THE EASTERN OR CHINESE FRANCOLIN.

---o---

Francolinus chinensis, *Osbeck.*

---o---

Vernacular Names.—[Hka (Burmese), *Pegu;* Nock-Kahtah, *Siam.*]

---o---

WITHIN our limits, the Eastern Francolin only occurs, so far as I yet know, in the valley of the Irrawaddy, extending about as far south as Prome, and perhaps a little further down. We met with it nowhere in Tenasserim, and it is unknown, Ramsay tells us, in the plains of the Tonghoo district, though abundant just outside our boundary in the Karenee Hills.

Out of India, it occurs in Southern China, in the provinces of Fokien, Quang-tung, Quang-si and Yunan, in the Island of Hainan, in Tonquin, Cochin-China, Siam and Independent Burma. Strange to say, it is, or was, also common in Mauritius, where it must, however, have been introduced.

I HAVE NEVER seen this bird alive, and can find but little on record about its habits, food, and the like. In our Pegu paper Mr. Oates remarks:—

"It frequents open places in forests, scrubby jungle, and waste land; a few may be flushed occasionally in a paddy field after harvest, but, as a rule, it does not stay in the open country. It has a call which is difficult to syllablize; but in its general character it resembles that of *F. vulgaris*, as noted in Jerdon. It is particularly vociferous in June and July, at which time it breeds.

"It does not keep in flocks or coveys, though many are often found in the same neighbourhood. The call is uttered from a stump, and occasionally from the branch of a tree, as much as ten feet from the ground."

"In the Karenee Hills," says Lieutenant Wardlaw Ramsay, "it frequents the sides of rocky hills and other inaccessible places. Its whereabouts may always be known by its extraordinary call, which it is continually uttering, and which may be rendered on paper by the syllables *kuk, kuk, kuich, ká-ká.*"

Mr. Oates now writes:—

"In British territory, this Francolin occurs only in the valley of the Irrawaddy, from the frontier down to Prome. Below this town it is rare or altogether absent. Laterally its range extends from the foot of the Pegu Yoma range to the foot of the Aracan range, but it is less abundant on the western side of the river. From Thayetmyo to Shway-pandan, a distance of 25 miles, it occurs in extraordinary numbers, the country consisting chiefly of gravel hills with bamboo jungle, intermingled with abandoned clearings, in the dense vegetation of which it loves to conceal itself.

"The cry of the Francolin is heard everywhere and at all seasons, in the early morning and also late in the afternoon. In the middle of the day, like most other birds, it is generally silent. When about to call, it mounts a stump or a small ant hill, or also, not unfrequently, a branch of a tree, in some cases as much as fifteen feet above the ground.

"This Francolin is rarely to be found in stubble, and I do not remember finding more than two birds in such ground in the course of three or four years' experience. On the other hand, almost every bamboo-clad hill-side, if well beaten, will yield five or six birds. The bird is very loth to fly, and runs before the beaters till want of cover compels it to take to the air; and even when thus flushed, it will descend to the ground as soon as possible. The flight is very strong, and a bird on the wing affords a very pretty shot.

"The Thayetmyo district, where the bird is chiefly found, is very dry, and there are very few streams or pools of water. The Francolin must, therefore, I think, be able to go without drinking for a long time. Its food appears, in addition to ants, beetles, and so forth, to consist in great measure of buds and shoots, and these probably afford the necessary moisture."

Mr. Swinhoe has some interesting notes on this species. He says:—

"This bird is numerous in Hongkong, inhabiting the patches of bushes and fern that so frequently occur in nooks and depressions on the hill-sides, whence it is very difficult to flush it, even with a good dog. If you mark a bird down, you are by no means sure of putting it up again. It is a solitary bird and does not associate in coveys. In the early mornings of April, and during the greater part of the day, if cloudy, you may hear them crying to each other on the hills around, that enclose the happy valley. One male starts the song '*ke-kai, ke-kai, ke-karr;*' another, on an adjoining hill, defiantly repeats; a third, still further, is heard; and even a fourth, until the notes are lost, as it were, in a distant echo. The first bird then commences again, adding greater emphasis to the last notes, and the other birds take up the song in succession as before. When heard near, these notes sound harsh to the ear, but at a distance

they have a pleasant, wild effect, as they sweep over the sides of the towering hills. The flesh of this Francolin is white and insipid.

"The South China Francolin was common everywhere in Hainan, and we repeatedly heard its loud note. At Lingshing (S. E. Hainan) I bought three males from a Chinese bird-catcher. He had caught them by a slip noose, with the help of a decoy bird. On our return to the capital (2nd April) we found them extremely common about the grave-covered plains, and often saw, as we passed along the road from the sea-port to the city, a cock Francolin perched on the top of a grave-mound, shrieking out its loud call. The Hainan skins are similar to those from South China.

"The Chinese 'Gazetteer' says of this bird:—'The "Chay-koo" [Francolin], when flying, is obliged to turn towards the south. Its cry sounds, "*kow, chow, kĭh tĭh.*" It also says, "*Hing puh tĭh yáy, kó-kó.*" [It is indeed of no use, my brother!]"

Sir R. H. Schomburgk also furnishes a note on this species:—

"This beautiful bird," he says, "is sometimes brought alive in cages to Bangkok, where they fetch handsome prices. Their general resorts are the rice-fields and pasture-grounds, which they frequent in flocks. I have been told that at night they retire to trees, and there they make their nests. I cannot vouch for this assertion: but since our own Partridge selects sometimes a tree for nidification, such may be the case with the '*nock kahtah.*' When surprised while on the ground, they rise with a whirring noise, similar to our Partridge. They are caught by a decoy bird; however, they are not frequently found in cages at Bangkok; and I believe that those which are brought here soon perish. Such has been the case with those which I have had in my possession. I found them plentiful at Aughin, on the eastern coast of the Gulf of Siam, and my huntsman brought them frequently as an addition to my breakfast or dinner. They are as delicious as our home species. I have been told they are likewise to be found in the environs of Bangkok."

THE CHINESE FRANCOLIN breeds within our limits only, so far as I yet know, in the comparatively dry portions of Upper Pegu. It does not, I believe, occur in the valley of the Irrawaddy much, if at all, lower down than Prome.

Mr. Theobald records having found a nest of this species at Meadey, a little north-east of Thayetmyo, on the 4th June. It was placed upon the ground, and contained four uniform greenish cream-coloured eggs, measuring 1·4 by 1·15.

From Thayetmyo, Mr. Oates writes that this species "is particularly vociferous in June and July. I have never myself actually taken the eggs, but the Burmans say that the nest is situated at the foot of a bamboo clump on a hill-side, and

consists merely of a pad of bamboo leaves. They also say that the bird lays as many as eight eggs. I have had the eggs brought me in June. They are creamy or buffy white."

He very kindly also sent me specimens of the eggs taken on the 6th June.

These are much like those of *F. pictus;* they are of the usual Francolin, more or less peg-top, shape, are dull and have little gloss, and vary from cream colour to dingy olive yellow or pale yellowish stone colour. They measure 1·45 and 1·51 by 1·2.

THE FEMALES in this species seem to *average* slightly smaller than the males, but some females are as large as some males.

The following are dimensions, &c.:—

Length, 12·0 to 13·4; expanse, 18·0 to 19.3; wing, 5·25 to 6·25; tail from vent, 2·7 to 3·5; tarsus, 1·6 to 1·8; bill from gape, 0·95 to 1·1; weight, 10 to 14 ozs.

In one *male* the beak was black; the irides brown; the legs dull pale brownish orange; in another the irides were reddish brown, the legs a clear orange yellow. Of a *female,* Mr. Oates notes: "The legs were a fine pale orange; claws purplish grey; bill dark horny brown; the gape, as far as the nostrils and the basal two-thirds of the lower mandible, being dark fleshy yellow; irides pale reddish hazel; eyelids yellowish grey."

THE PLATE presents an admirable portrait of the male, though it should be noted that the chestnut scapular patch is much larger and more conspicuous in some specimens than in the one figured. The comparatively large spurs of the male, from 0·3 to 0·4 in length, are corectly shown.

The female, which by some oversight has not been figured, wants entirely the black frontal eye-bands and mandibular stripes, and has the whole head, neck and breast extremely like those of some female Painted Partridges. Again, the breast and lower parts are extremely like those of many female Blacks. From the latter they may, like the female of the Painted Partridge, be distinguished at once by the absence of the nuchal chestnut demi-collar, while from the females of both the other Francolins, those of the eastern species may be distinguished by not having the lower back, rump and upper tail-coverts barred as these have.

Mr. Blyth always held that the Chinese and Peguan birds, which he named *F. phayrii* (as on the plate), were separable. He said: "As compared with *F. chinensis* the Peguan bird would seem to have the long black supercilium broader, and extending more across the forehead, and the rufous supercilium above it narrower and paler; also to have more developed spurs, and

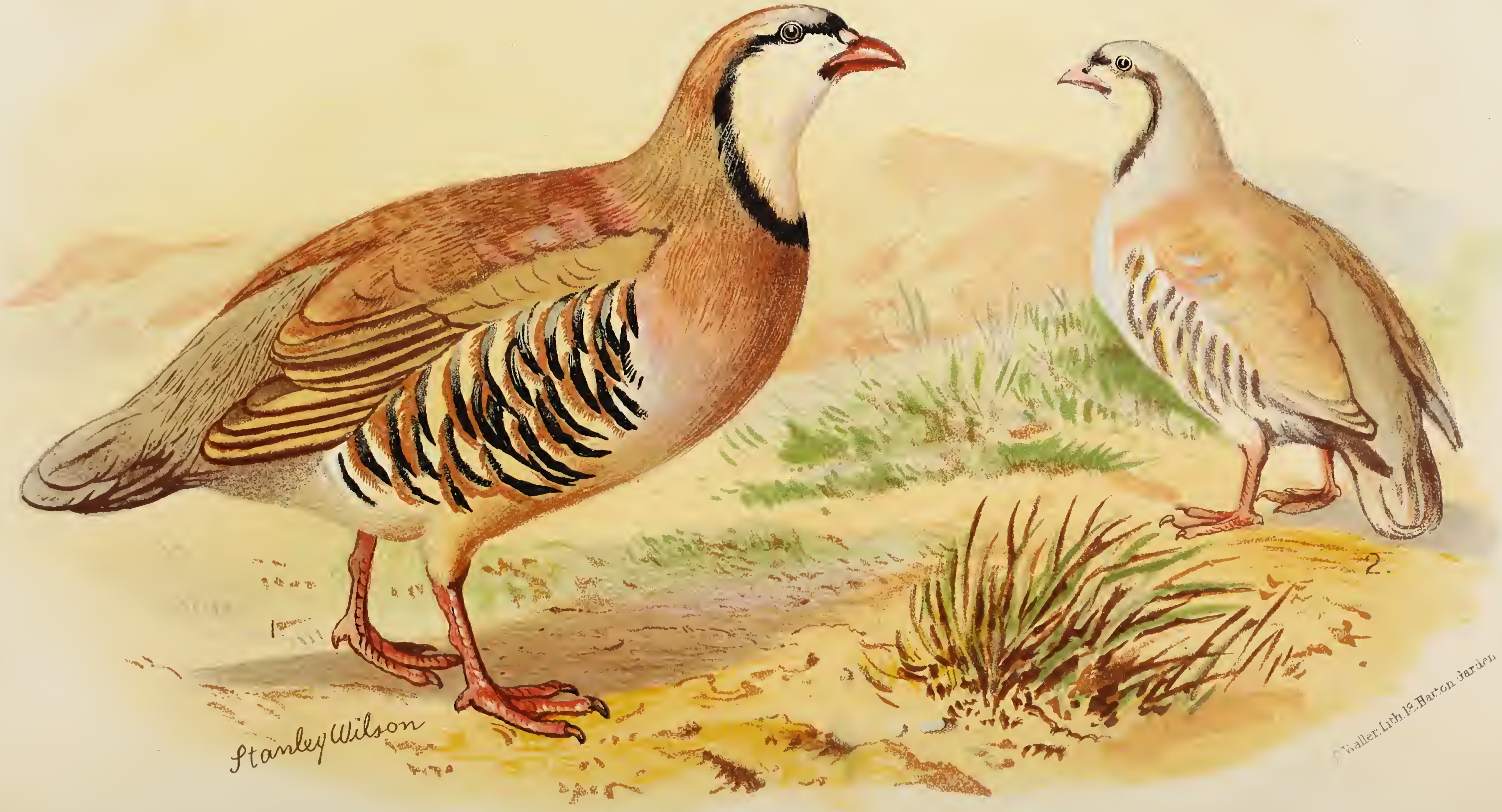
a somewhat smaller bill. In *F. phayrii* the spurs seem generally to be $\frac{3}{8}$ in length, and it remains to ascertain if they ever exceed $\frac{1}{8}$ inch in the species inhabiting China and the Mauritius. In plumage we can detect no further difference." Later he added: "*F. phayrii* is smaller, with bill and legs conspicuously less robust."

I have compared most carefully birds from Fokien and Amoy, Siam, Mauritius and Pegu, and I am of opinion that, though specimens vary as indicated by Blyth, these variations are individual and not local, and that the races inhabiting all these localities (I have seen none from Tonquin and Cochin-China) are all perfectly identical.*

THE THREE species above dealt with are the only members of the restricted genus *Francolinus*, but some 30 odd species of Francolins, by some included under *Francolinus*, by others separated under the genera, or subgenera, *Pternises*, *Scleroptera*, *Chætopus* and *Clamator*, are found in one place or another all over Africa except at the extreme north ; and whether we keep our three species generically distinct or not, there can be no doubt that the Francolins are essentially African, and that our species also are originally of African descent.

---

* Conrad and Finsch, in their remarks "Ueber eine Vogel sammlung aus Ostasien," aver that specimens from Saigon are identical with those of *P. phayrii* in the British Museum and that these are "totally distinct" from the Chinese bird. I have not seen birds from Saigon, but I have again most carefully compared a series of Burmese birds with others from Fokien and Amoy, and I hold them to be identical. It is a pity our authors did not point out *some* of the differences which constitute the total distinctness. I can discover many and striking individual differences, but none peculiar to either locality.



½

1. CACCABIS CHUKAR 2. CACCABIS PALLESCENS.

THE CHUKOR.

———o———

Caccabis chukor, *J. E. Gray.*

———o———

Vernacular Names.—[Chukor, *passim;* Kau-kau, *Kashmir;* Keklik (Toorki), *Yárkand;* Kabk, *Persia;*]

———o———

ALTHOUGH I have myself at different times proposed, doubtingly, separate names for two or three of the races into which the Chukor locally runs, and although in the plate we have figured two of these forms, commonly met with in our limits, I am now clearly of opinion, after comparing specimens from China to Cyprus and from the Tian Shan to Aden, that all these races should be accepted as one species.

From the Chukor, which, though straggling into Eastern Europe, may be well called the Asiatic species, I separate the European species—the so-called Greek Partridge *(C. saxatilis).* The birds are extremely alike, but differ, *as a rule,* in the Greek Partridge having the entire throat space enclosed by the black bands pure white, while in the Chukor this is pale rufous, buff or buffy white; and they differ *invariably*—and this is the true diagnosis—* in the black frontal band in *saxatilis* running down to the gape, and thus covering the entire anterior portion of the lores immediately behind and below the nostril scale, while in the Chukor there is no such extension downwards of the black, and the pale colour of the throat and cheeks runs on unbroken over the entire lores right up to the nostril scale.

Accepting all our Chukors so characterized as one species, then this may be said to range within our limits throughout the Himalayas, from the eastern portions of Nepal to Afghanistan, and thence southwards throughout the Sulemán Range, and the hills generally (often quite to their bases) dividing Afghanistan, Khelat and Beluchistan from British India, right down to the sea. It also occurs plentifully in the western portions of the Salt Range in the Punjab, and more sparingly in the central and eastern portions.

* First pointed out, I believe, by Degland and Gerbe.

It does not appear to have ever been obtained in Sikhim or in the hills further east.

Outside our limits, it spreads throughout the northern ranges, the so-called Karakorum and Kuen-luen, and right across Kashgar to the Tian Shan, throughout which it occurs. Further east, it probably occupies the greater part of Chinese Tibet, Southern Mongolia, and the mountainous parts of Northern China as far east as Chefoo, and as far south, according to Swinhoe, as the northern bank of the Upper Yangtsee ; but according to Prjevalsky it is replaced in the South Kokonor mountains, Northern Tibet and the Tsaidam Plains, by a distinct species, *C. magna*, which has *black* lores like *saxatilis*, a double neck band, the outside one reddish like the ear streak, and a very large wing.*

Eastwards it appears to occur in suitable localities throughout Eastern Turkestan, almost to the shores of the Caspian, throughout Afghanistan,† Beluchistan, Persia, Mesopotamia, Asia Minor and Palestine, in the neighbourhood of Constantinople and in Cyprus, Rhodes, Crete and many, if not all, the islands of the Greek Archipelago. It also probably occurs throughout Arabia, as it has been sent from several places on the Arabian coast, on the Persian Gulf and the Gulf of Oman, from near Aden, and from the Peninsula of Sinai and other neighbouring localities inland.

Lastly, like the Chinese Francolin in the Mauritius, the present species is said to have been introduced at an early period into St. Helena ; but I am not aware that the fact of its occurrence there has been verified in recent times, or that the exact species has ever been ascertained by a competent ornithologist.

THE CHUKOR may be found in different localities from sea level, as in Southern Sind and Beluchistan, to an elevation of at least 16,000 feet, as in Ladákh and Tibet.

It will be found in comparatively well-wooded, watered, and cultivated hills, as throughout the lower, southern or outer ranges of the Himalayas ; in absolute deserts, like those of

* Although Prjevalsky does not seem aware of the fact, it is only in the wings that his *magna* exceeds the dimensions of fine Chukor. I give below his dimensions and those of a male in my museum, killed and measured by Scully, at Yárkand, and of another shot by me here in a valley below Simla :—

	Length.	Expanse.	Wing.	Tail.	Bill from gape.	Tarsus.
Magna, Prjevalsky ...	15·0	22·0	7·5—7·7	4·25—4·9	1·03—1·1	1·6—1·7
Chukor, Scully ...	15·1	22·8	6·65	4·2	1·1	1·75
,, Hume ...	15·75	23·0	6·75	4·9	1·2	1·9

And I have several others from other localities quite as large as Scully's bird.

† Not merely in Afghanistan proper, but in all the outlying dependencies of this and Kashmir. Biddulph writes that he met with it in Gilghit and Chitral ; and again he writes : "In all the hills south and west of Turkestan, up to 12,000 feet at any rate, if not higher, the Chukor is very common. In the valley between Punjah and Sirhuddin, in Wakhan, they are specially abundant, and the people there hawk them."

Ladákh and the Karakorum Plateaux, or in utterly barren rocky ranges, like those of the Mekran and Arabian coasts, where the abomination of desolation seems to reign enshrined.

In one place it faces a noon-day temperature of 150° Farh.; in another braves a cold, about day-break, little above zero; here it thrives where the annual rainfall exceeds 100 inches, and there flourishes where it is practically *nil*.

But all these differences in physical environment affect appreciably the size and colour of the species; and hence the numerous races which, under a variety of names (*rupicola, altaica, sinaica, pallescens, pubescens, arenarius, pallidus, &c.*), have been at one time or another elevated to the rank of species.

Broadly speaking (for any number of intermediate forms occur, corresponding to intermediate sets of conditions), where vegetation is plentiful and the temperature moderate, the birds are dark, rich coloured and of medium size; where the temperature is low, and of course vegetation scant or wanting, there the colours are extremely pale and size large; while amid the glowing inferno of the desert hills of Arabia, the size is small and the plumage overspread with a desert hue.

Birds of almost every shade of colour might possibly, as Dresser asserts on the faith of Severtsov and Prjevalsky, be found in the same tract, if that tract was sufficiently large and sufficiently diversified in physical characters and climate; but it is missing the whole lesson that this species reads us, to suppose, as Dresser seems to do, that these differences are individual, instead of being, as they are, strictly local and the result of local conditions.

It is doubtless to its unusual capacity for modification under varying conditions of elevation, temperature and climate, that the extraordinary range of this species is due.

In the outer ranges of the Himalayas, grassy knolls in the neighbourhood of straggling cultivation are perhaps their favourite resorts; and in such places, though they run rapidly and far at first, fly swiftly, and carry off a good deal of shot and lastly fly away to considerable distances, very good sport may be obtained with them, if only you are accompanied by good markers, and have a steady old dog to retrieve wounded birds.

October is the best month, I think, for Chukor-shooting on the lower ranges, as there the young are by that time almost as strong on the wing as the old birds, and are then tenderer, fatter, and better eating than at any other time. Old Chukor, even cooked gipsy fashion, are at best but poor eating, dry and, even though hung till gamey, still not tender; but the birds of the year killed in October, properly kept and properly cooked, are really excellent.

In October, the birds keep in coveys of from ten to fifteen, or even more. A covey marked down, you go to look them up. Sometimes you walk, and walk seeing nothing of them:

they have squatted; and the first you see of them is one rising from behind some stone close at your feet. At the first shot they rise with a whir all round, and sweeping away down the hill-side in all directions, alight, generally widely separated, on the sides of the hills all round, and immediately commence calling vigorously to each other. You will hardly have got more than one (or two with a foul shot) with the second barrel; but if your men have marked the birds properly, and you do not mind hard trudging, you may, having broken up the covey, proceed to walk up and bag almost every single bird. More commonly, as you approach the spot where the covey has been marked, and long before you are within shot, you see the little red-brown birds (as they look) scuttling along at a tremendous pace in front. You push on, if the ground is decent running smartly, and generally get near enough to some of the hinder ones to flush and get shots at them and raise some of the rest; but in this case probably not above half the covey: the foremost ones, who are over the brow of the hill, not rising at your shots, but only running on all the harder. Those you have flushed, and which have been marked, can then be followed up and accounted for. Birds thus separated, and alighting after a good flight, do not usually run much, and often lie like stones, rising when you are quite close to them from precisely the spot where they alighted.

The remainder of the covey must then be looked for, *viz.*, at the bottom of the hill down which they escaped, and working upwards. And here two or three steady dogs are very useful; for Chukor will run up hill quite as quickly as most sportsmen can toil up, and by setting the dogs on to press them, they rise and come down superb over-head shots, two or three of which, if fairly hit, put one, for that day at any rate, in the best of humours with oneself and the world in general. At all times the Chukor flies strong and fast, but when flushed by dogs a hundred yards or so above you, he sweeps down in a style that leaves nothing (except perhaps *a drag*) to be desired.

At times you may get coveys in September, especially in the morning, in standing corn, and then they will often lie well, rising in ones and twos here and there, like English Partridges in thick turnips; but their flight is much stronger and sharper than that of the Partridge, and they afford proportionally better sport.

Although bare grassy hills, interspersed with a little cultivation, are, I think, their favourite haunts, I have often found them on hill-sides thickly studded with rocks and bushes; and in such situations they lie better and run less, and six or seven brace may be killed in less than an hour, besides probably a Kalij or two, and not improbably a Barking-deer, who, jumping up, like a Roe-deer, out of a tussock of grass as you step into it, is rolled over, hare-like, with a charge of No. 4.

Very different is the shooting in Láhul, Spiti and the bare plains and hills of Ládakh; the birds are much fewer in numbers, are found in smaller coveys, and are either, if they have never previously been shot at, very tame, running in front of you within easy shot, and only rising when your men throw stones at them, or so wary, where they know what guns are, and flying so far when flushed, that it is impossible to get any sport out of them, though you may every now and then bag a single bird for mess purposes.

The Chukor is a very noisy bird, repeating constantly in a sharp, clear tone, that may be heard for a mile or more through the pure mountain air, his own well-applied trivial name. Like other game birds, they call most in the mornings and evenings; but even when undisturbed, they may be heard calling to each other at all hours of the day; and very soon after a covey has been dispersed, each individual member may be heard proclaiming his own and anxiously enquiring after all his fellows' whereabouts. The tone varies. First he says, "I'm here, I'm here;" then he asks "Who's dead? Who's dead;" and when he is informed of the untimely decease of his pet brother and favourite sister, or perhaps his eldest son and heir, he responds, "Oh lor! Oh lor!" in quite a mournful tone.

They are, I think, almost exclusively vegetarians; seeds and grain and quantities of small stones are, in most cases, the contents of their gizzards. I have examined numbers without ever finding any traces of insects; but Mr. Hodgson remarks that the gizzards of some young birds that he dissected contained "scaley insects" (wood-lice I suppose), and in two or three cases I find that others have noted "ants," "small insects," "grubs," as forming part of the food of specimens they examined.

Mountaineer says:—

"In our part of the hills the Chukor is most numerous in the higher inhabited districts, but is found scattered over all the lower and middle ranges. In summer they spread themselves over the grassy hills to breed, and about the middle of September begin to assemble in and around the cultivated fields near the villages, gleaning at first in the grain fields which have been reaped, and afterwards, during winter, in those which have been sown with wheat and barley for the ensuing season, preferring the wheat. A few straggling parties remain on the hill-sides, where they breed, as also in summer many remain to perform the business of incubation in the fields. In autumn and winter they keep in loose scattered flocks, where numerous, sometimes to the number of forty or fifty, or even a hundred. In summer, though not entirely separated, they are seldom in large flocks, and a single pair is often met with. They are partial to dry stony spots, never go into forest, and in the lower hills seem to prefer the grassy hill sides to the cultivated

fields. This may probably be owing to their comparatively fewer numbers, as I have observed that many others of the feathered race are much shyer and more suspicious of man when rare, than those of the same species in places where more numerous. Their call is a kind of chuckling, often continued for some time, and by a great many birds at once. It is uttered indiscriminately at various intervals of the day, but most generally towards evening.

"The Chukor feeds on grain, roots, seeds, and berries: when caught young it soon becomes tame, and will associate readily with domestic poultry.

"From the beginning of October, Chukor-shooting, from the frequency and variety of the shots, and the small amount of fatigue * attending it, is, to one partial to such sport, perhaps the most pleasant of any thing of the kind in the hills. About some of the higher villages, ten or a dozen brace may be bagged in a few hours. Dogs may be used or not, at the discretion of the sportsman; they are not at all necessary, and if at all wild, are more in the way than otherwise."

Dr. Scully remarks:—

"The Chukor is common in certain parts of the hills round the valley of Nepal, at elevations of from 5,000 to 6,000 feet, from March to October. It frequents rounded grassy hills, where the small nallas are fringed with bushes, and where there is no forest. In such localities, especially near patches of cultivation, and on bits of stony ground, flocks of Chukor are sure to be found. About the end of October the birds descend the hills, and assemble on the confines of the warmer valleys for the winter, where they can feed in the rice fields which have been reaped, in fields of growing corn, &c."

They are very pugnacious birds, and in the spring I have repeatedly come across pairs of cocks fighting desperately and quite oblivious of everything else. I do not know that they are ever kept in *India* for fighting, but Dr. Scully says:—

"Chukor seem to abound in all the hills which surround the plains of Kashgharia on the north, west and south. In the winter the birds seem to come down to lower elevations than they frequent in summer; numbers are then caught and brought into Yárkand and Kashghar for sale.

"This species is rather prized by the Yárkandis on account of its fighting propensities. I have seen some battles between Chukor which I kept—not for fighting I need scarcely say—the birds appearing to be decidedly pugnacious."

On this same subject Dresser remarks:—

"Like the Greek Partridge, it is extremely pugnacious and quarrelsome, especially in the spring of the year; and it is

* Mr. Wilson perhaps forgot that everybody cannot walk 30 miles in a day over the worst ground, and come in as fresh as a lark, as he could. As a rule, if you want to make a *good* bag, ten to twenty brace of Chukor, it is very hard work.—A. O. H.

said to have been kept tame for fighting in former ages, as game-cocks were, not so long ago, in England. Naumann says that the inhabitants of Cyprus still (when he wrote) kept them for this purpose; and he remarks that history relates that the Roman Emperor, Alexander Severus, was extremely fond of this sport. The present species is very easily tamed; and, according to Turnefort, the inhabitants of Scio and other islands of the Greek Archipelago keep tame Chukor Partridges, which they allow to seek food in the fields like poultry. Baron König Warthausen gives the following extract from the journal of Samuel Kiechel, who travelled through almost the whole of Europe between 1585 and 1589:—'In this island (Rhodes) many Partridges are kept, some peasants having as many as 400 or 500, more or less. They breed, and are as tame as Geese. In the morning a boy or girl drives them out into the fields, and they fly away and search for food during the day. Towards evening the child goes out in search of them; and when they hear the child's call, they fly towards him or her and are led back to the house of their owner."

I have already noticed that birds once flushed lie well and seem unwilling to rise again after a good flight. In our "Lahore to Yárkand" Dr. Henderson noted that "in Yárkand the Chukor swarms (wherever the rivers debouch into the plains) over a belt of country some ten or fifteen miles in width. The Yárkandis disdain the use of firearms for the chase of these birds. A party of men mounted on ponies and armed with whips pursue a covey, and in a very short time succeed in capturing the whole flock. The Chukor will never rise more than twice, and after that, as they run, they are easily overtaken and knocked over with whips. This sport is carried on over the most terribly rough ground in the rocky valleys; but the Yárkand ponies traverse, at the top of their speed, country that most men would only crawl over with the utmost caution and deliberation."

Major O. St. John writes:—

"This is the Common Partridge of Persia, and I have shot it at all elevations, from 10,000 feet in the Elburz to the base of the hills near Bushire. The race found in the south is, I think, decidedly larger than that of the Elburz. In the wild moorland country which fringes the oak forests of Fáis, on the north, it is especially abundant. I have killed twelve and a half brace before breakfast in September near the Khán-i-Zimán caravanserai, twenty-five miles west of Shiraz. Contrary to what is recorded of its habits in the Himalayas, it avoids elevation in Persia."

THE CHUKOR is in nowise migratory, though in some places in the hills it may move a little higher and lower as the seasons change. Wherever it occurs, there, as a rule, it breeds.

It breeds from sea level, as on the Mekran coast, up to an elevation of 16,000 feet in Tibet. Mr. Wilson took and sent

me the eggs out of a nest which he found on the 29th July at this elevation.

They lay, according to climate and elevation, from April to August.

The nest, composed of a little grass or a few leaves, at times laid on the flat surface of the ground, at others in a slight depression, natural or scraped by the birds, is placed often in fields, often under the shelter of some tuft of grass or dwarf bush on a grassy hill-side, occasionally under some similarly-situated rock barely shaded by tufts of drooping fern.

Once I found ten eggs, in Láhul, in a perfectly bare saucer-shaped depression in fine shale between two large stones.

Occasionally I have seen a pretty substantial pad-nest of this species.

I have taken many nests, but never found more than twelve eggs in any one, and, according to my own experience, should certainly say that eight to ten were the usual number; others, however, seem to have found more.

Mr. W. Theobald, speaking of the nidification of this species in the Salt Range, says:—

"Lays in April and May; eggs, twelve. Shape varies from ovato-pyriform to blunt ovato-pyriform. Colour, yellowish white or brownish cream colour, faintly ringed and spotted with tan colour. Nest, a few leaves on ground under bushes."

From Garhwál Mr. Wilson, writes:—"The Chukor breeds at all elevations, from 4,000 or 5,000 feet on the lower hills to 12,000 or 13,000 feet on our side of the Snowy Ranges, and to 16,000 feet beyond, and in Tibet. The nests may be found in cultivated fields, on grassy hill-sides, stony ravines, almost everywhere, except in forest or amongst precipitous rocks. They are (like those of all the rest of our game birds) holes scraped in the ground. In the lower hills it begins to lay in April, in the higher in May; and I have found fresh-laid eggs in the middle of June, and at the highest elevations, at quite the end of July. The eggs are from seven to twelve or fourteen, sharply pointed, dirty white, minutely powdered with light brown. Some are spotted and blotched with the same."

In Nepal, Dr. Scully tells us that:—

"It breeds from May to June, usually at an elevation of about 6,000 feet. On the 5th June a nest of the Chukor was found at Kakin Powah: it was on the ground, under the edge of a rock, and well sheltered by ferns and small bushes. The nest was a nice pad of grass and leaves, and contained seven nearly fresh eggs, which were neatly arranged, six in a circle, with the small ends pointing inwards, and the seventh egg filled up the centre."

He adds:—"In the hills bounding the plains of Kashgharia on the south, at elevations of from 6,000 to over 12,000 feet, the birds were numerous near willow bushes and streams. On

the 30th August, near Gulgun Sháh, at an elevation of about 12,500 feet, I found a nest of this species containing only three eggs. The nest was composed of a few leaves and fibres, placed in a slight depression on the ground, and covered over by a bush. One of the eggs is an elongated oval, moderately pointed towards the small end, and glossy. The ground colour is pale greyish *café au lait*, spotted all over—except at the point of the small end—with sepia coloured dots; at the broad end the brown sepia spots are more distinct, and there are a few blotches of the same colour here and there."

The eggs vary a good deal in size and shape, as well as in type of colouring, but typically they are somewhat elongated ovals, a good deal pointed towards the small end. Peg-top and sphero-conoidal varieties occur, but these forms are the exceptions in this species, while they are the rule in those of the three species of Francolin. The type of colouring, too, varies: in one type the ground colour is pale *café au lait*, thickly speckled and spotted with purplish, reddish, or yellowish brown; in another the ground colour is a pale creamy white or pale isabelline, and the eggs are pretty thickly blotched, streaked, and spotted with pale purplish pink, the spots and blotches being occasionally slightly in relief, as if drops of white paint tinged with purple had been dropped on the egg. The eggs are moderately glossy—more so perhaps than in the Common Francolin, less so than in the Grey Partridge. The common type is that first described, and in some eggs the specklings are so excessively minute, that the eggs, looked at from a little distance, appear a uniform somewhat brownish *café au lait*.

"The eggs vary in length from 1·55 to 1·9, and in breadth from 1·15 to 1·3; but the average of seventy-six eggs is 1·68 by 1·25."

ALTHOUGH FEMALES in one locality may be met with as large as males in others, still in any one place the males do average decidedly larger and heavier than the females.

The birds, as already noticed, vary greatly in size. The following dimensions are all from specimens obtained within our limits. If I included birds from Persia, Arabia, Cyprus, China and Yárkand, the variations would be even greater; in a male from near Aden, the wing is only 5·75.

Males.—Length, 14·25 to 15·75; expanse, 21·5 to 23·25; wing, 6·25 to 6·8; tail from vent, 4·0 to 4·9; tarsus, 1·6 to 1·9; bill from gape, 1·0 to 1·2; weight, 19 to 27 ozs.

Females.—Length, 13·0 to 14·4; expanse, 20·0 to 21·3; wing, 5·9 to 6·5; tail from vent, 3·3 to 4·1; tarsus, 1·55 to 1·75; bill from gape, 0·94 to 1·1; weight, 13 to 19 ozs.

This is a *résumé* of more than 50 measurements recorded in the flesh by myself, or for me by others, and it will be seen how

distinctly the general average superiority in size of the male comes out.

The great variation in the weights is startling, but the figures are absolutely reliable—at one time of the year the birds are very thin, at another very fat. Moreover, I have given extreme weights—out of nearly 100 weighed, only one was 27 ozs., and only one other was over 25 ozs. Full-grown, well-conditioned males in the Himalayas weigh generally from 22 to 23 ozs., and females about 15 to 17 ozs.

The irides are brown, yellowish, orange, or even reddish brown ; the margins of the eyelids crimson or coral to brick red ; the eyelids themselves grey ; the bills are crimson to deep coral red, often dusky on culmen, and generally so at base and about the nostrils ; the legs and feet vary from coral pink to deep red ; claws dusky brown. In young birds the bill is brownish black, and the legs and feet orange red. Of two nestlings obtained on the 28th and 30th August, at an elevation of over 12,000 feet, Dr. Scully remarks :—"Weight, 2·4 ozs. Bill black, grey or yellowish at extreme tip ; irides brown ; legs and feet pale reddish and orange reddish ; claws brown. Length, 7·0 ; wing, 3·8 ; bill from gape, 0·7."

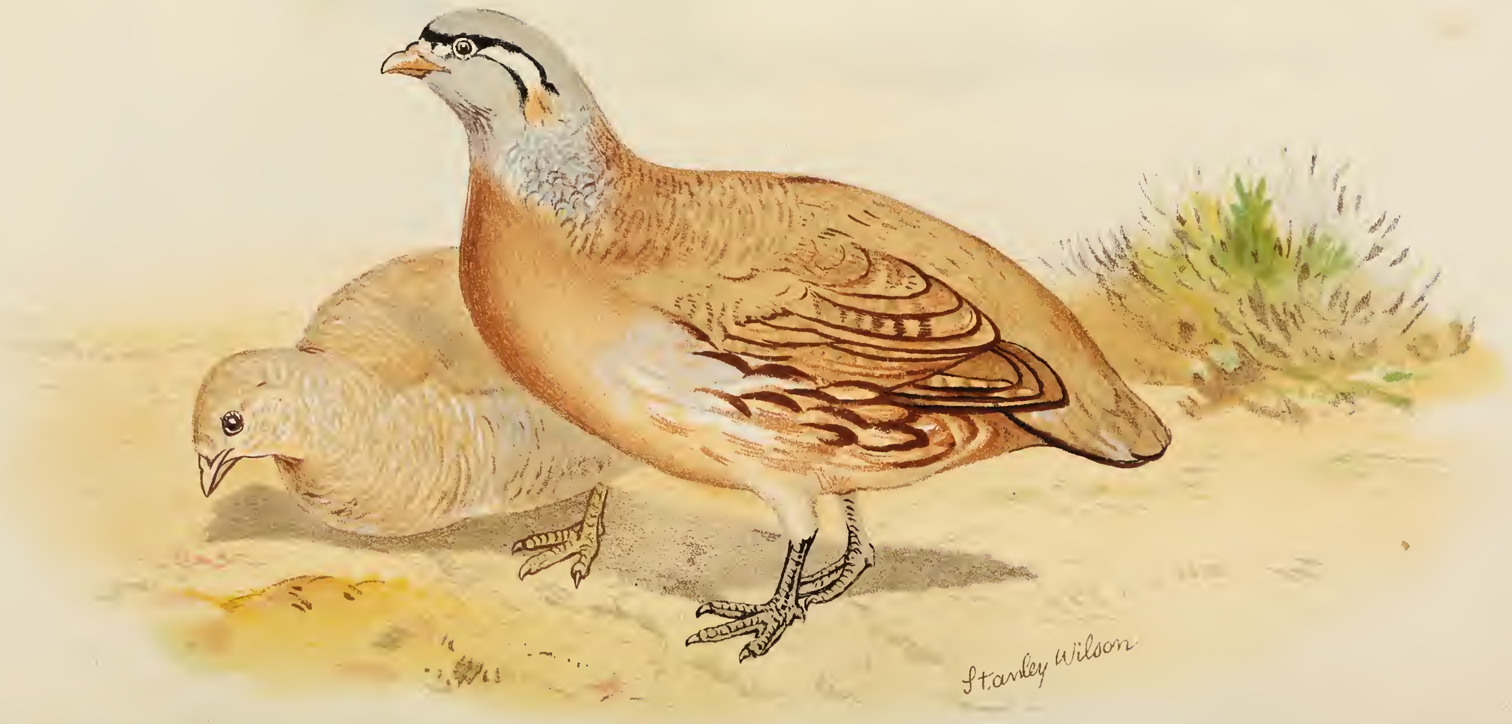
THE PLATE is not satisfactory ; the smaller right hand figure can be matched exactly no doubt by some of the high-level Ladákh specimens, except that the pale chestnut ear-patch (quite as conspicuous in these as in any others) is all but ignored ; but the figure in the foreground, intended to represent the typical Chukor of the lower and middle ranges of the Himalayas, though decidedly good in drawing, is absurd in colouring. Every part of the bird should be *browner*, especially the wing-coverts ; the occiput and back should be brown tinged with vinaceous red, not the staring brick red of the picture, while the breast should be grey, the upper portion more or less overlaid with sandy brown, and tinged at the sides, and perhaps *just* below the collar in front, with vinaceous red.

Here, too, the chestnut ear-patch, contrasting strongly as it does with the crown, is ignored.

I note that the breadth of the black neck and breast band varies much. In some specimens it is *less* than is shown in the plate, in many it is *greater*, and in a few nearly double the width there depicted.

BESIDES THE Kokonor, *C. magna*, and the European representative (*C. saxatilis*) of the Chukor, which have been already noticed, there are the Red-legged or French Partridge (*C. rufa*), of France, Spain and Italy, now quite naturalized in the Eastern counties of England, and which, though very like our bird, may be distinguished at once by its broad collar of black spots

below the black throat band, and the Barbary Partridge (*C. petrosa*) of N.-W. Africa, Sardinia and Greece (and the rock of Gibraltar), wanting the black neck and throat band, with grey throat and a broad white-spotted chestnut gorget. Lastly, a fine Black-capped Chukor (*C. melanocephala*) occurs in the Arabian hills, notably between Mecca and Jeddah. No doubt, besides these the P. Z. S. gives us a brilliant fancy sketch of a bright Blue Chukor (*C. yemensis*), said to have been shot by Dr. Nicholson near Moosa, 20 miles eastwards of Mocha; but, remembering *Artamus cucullatus*, I looked into the matter, and at once discovered by comparison with the description (P. Z. S., 1851, 128) that the bird was really nothing but *C. melanocephala.*



½

AMMOPERDIX BONHAMI

THE SEESEE.

Ammoperdix bonhami, *G. R. Gray.*

Vernacular Names.—[Seesee or Sisi, *Punjab, Sind;* Tíhú, *Persia.*]

I THINK that the Chenab indicates about the eastern limits of the Seesee. Westwards of this, I know that it is found in the Khariar or Palli Hills, which are east of the Jhelum and just north of Chillianwalla. Whether northward it extends to the Bimbur Hills, I have failed to ascertain. West of the Jhelum, it is found throughout the Salt Range and the tract of country north of these known as Potwar, in all the low hills of the far North-West about Attock, Shabkadar, Mardán, and close to the western bank of the Indus, a little below Turbela. Eastward of this, it is found in the Hazára district, where it is not plentiful, and where it is chiefly confined to the dry tract south of Tanawal and the Gundgarh Range. I have neither seen nor heard of its occurrence anywhere eastwards of this along the bases of the Himalayas. Southwards from Attock, it is found throughout the Trans-Indus Hills of the Punjab and Sind, and the many rocky ranges that, under various names, run down from the Khaibar Pass to the Hab River and divide these two provinces from Afghanistan and Beluchistan. I am not aware at present of its occurring anywhere east of the Indus south of the Shahpur District, but it is quite possible that it does

Gould talks of a specimen having been brought from Tibet, but this is clearly a mistake.

Outside our limits, it abounds in suitable localities in Afghanistan, Khelat, Beluchistan and Persia, from sea level to an elevation of 6,000 or 7,000 feet. How far, if at all, it extends north of Afghanistan and Persia, is unknown. Severtsov at one time stated on hearsay that it occurred in Western Turkestan, but later expressed his disbelief of the fact.

Possibly it may occur in Eastern Arabia, for I retain a vague impression of having been told at Muscat of its occurrence there.

THIS PRETTY little species is very common and tame in the Salt Range; a couple of dozen may be seen in a morning's

walk, and if people are set to catch them, large numbers are brought in. They are most generally seen running on the bare rocks or pecking about the droppings of cattle on the mountain paths; but at Tobar,—some 2,000 feet high, the rainy-season residence of the miners, who, during the rest of the year, reside in the Khewra Gorge (some 700 feet above the sea) and work the neighbouring Mayo Salt Mines,—I saw several pairs running about on the flat roofs of the empty houses. The males may often be seen perched on some rocky point, and the female, in the spring, though less commonly seen in exposed positions, will always be found close to her mate. They run very rapidly and glidingly over the rockiest ground, rise pretty readily, and fly smartly, always if possible down-hill. Both in gait and flight they remind one much of the Chukor.

They are eminently birds of bare broken ground; on grassy slopes they may indeed be found, for they feed much on grass seeds, but they eschew utterly forests or thickly wooded tracts, and even where there is much scrub about, they are less common—the barer and more desolate the ravines and gorges, the more thoroughly do they seem at home.

They are active, bustling little birds, scratching about a great deal in the earth, dusting themselves freely in the sand, basking in the sun, resting in little hollows they have worked out for themselves, and generally reproducing in many ways the manners of the domestic fowl.

Their call, continually heard in the spring, is a clear double note, "Soo-see, Soo-see," and they have also, whilst feeding and when surprised, a whistled chirp, uttered very softly when at their ease, but sounding more harshly when they are alarmed.

Their food is, I think, chiefly, if not exclusively, grain, seeds, and herbage of different kinds. I have examined many, but have lost my notes in regard to them, and I cannot now remember whether they are or are not also insectivorous. My impression is that they are not.

Although they are pretty shooting, they never afford much sport; they run a great deal, and over ground across which it is difficult to follow them; it is often difficult to flush them, and when flushed they constantly rise so little, and dart so directly down hill, that they are lost sight of before it is possible to fire. Knocking about, not trying to make a bag, a good many shots will be obtained, and I have thus killed seven or eight brace in a day; but if you set out to have "a day after Seesee," it is astonishing how the little wretches elude you; and common as they are in some places (they seem positively to swarm when you are after Oorial *(Ovis vignii)* and dare not fire), eleven and a half brace is the largest bag I ever succeeded in making.

Tastes differ. I have found them but poor eating, far inferior to a good, fat, middle range Chukor of the year.

Mr. Blanford tells us, on the strength of his own and Major St. John's experience, that "the *Tíhú* is found everywhere in Persia, except in the forest regions, from sea level to an elevation of at least 7,000 feet in Southern, and not much less in Northern, Persia. They keep much to low hills and stony ravines about the bases of hill ranges. During the spring and summer they are found in pairs or singly; in the winter they are occasionally to be met with in small coveys, but by no means so frequently as *Caccabis;* nor do they collect, as far as my observations extend, in equal numbers. They may usually be seen walking quietly up stony hill sides, not running so swiftly as most Partridges, nor caring much for concealment; indeed, when they wish to hide, it is sufficient for them to remain still, for their colour so closely resembles that of the sand and stones around that they are most difficult to detect. When they rise, it is much like a Quail, with a rather quick flight, and a whistle uttered as they start. Their ordinary call is a double note repeated several times. They are excellent eating, far superior to the dry *Caccabis*, and only second, if they *are* second, to the Francolin."

Again, Mr. Young writes to me:—

"I have never shot this bird in India, but have often killed it in Persia. It frequents grassy and rocky ground. I found it in great numbers on the mountains of Arjend, North-west of Sultaniah, very often in company with the Chukor. It also frequents old ruins, and the ruins of Rhé (Rhages), near Tehran used, 20 years ago, to be a very favourite locality."

Both sexes are equally devoid of spurs, and I have never heard even the males accused of being at all pugilistic. I have shot many in March and April, but I have never seen the males fighting, as one so often does those of other game birds.

TOWARDS THE end of March and early in April they may be seen love-making, and towards the latter portion of April they begin to lay, hatching off as a rule some time in May, though I have found fresh eggs on the 1st June.

The nest is at best very slight, a little dry grass curled into a whisp, and generally seems to be only represented by a few blades of grass laid in a depression scraped by the birds. It is placed at times under some thick stunted bush or overhanging rock; more often in the midst of loose stones; occasionally in one of the scanty tufts of grass that here and there dot these bare hills. They breed at all elevations, from the level of the plains to at least 4,000 feet. Twelve is the largest number of eggs that I have seen in any nest, but many more are said to be at times found.

Captain Cock writes:—

"I have taken several nests of this bird near Nowshera, in the low adjacent hills, dry, parched, and barren places, which only a strong love of ornithology would ever tempt a man to enter during the month of May, when the heat is nearly unbearable. The nest is placed under a ledge of rock or between some stones. I once found one under a cairn of stones that had been erected by the herd boys. They lay from eight to twelve eggs, stone cream colour, pointed at both ends, in shape and size resembling the eggs of *Podiceps philippinensis*. The nest scarcely deserves the name; a few dry bents, one or two feathers, and a hole in the ground, is all the nest they prepare for the reception of their eggs."

Mr. C. Browne again remarks:—

"Here, in the Salt Range, the Seesees begin laying about the first week in April; a full nest cannot be found before the end of April. In exceptional cases, a single bird may begin laying in the last week of March; by the end of May almost every clutch has hatched off.

"The number of eggs in each nest varies from 10 to 14; the natives assert that 20 eggs are sometimes found in a nest, but I believe that this is a mistake. Possibly at times two hens may lay in the same nest.

"The eggs, I find, vary much in shape; some are long and decidedly pointed at one end; others are comparatively short and do not go off into nearly so much of a point.

"The nest is generally placed amongst stones, on bare ground, on the hill side; a mere hollow, thinly lined with grass, often overhung and shaded by some bush or rock; at times, especially when in more inaccessible places, entirely open to view, with no shelter whatsoever anywhere near it."

The eggs of this species are quite of the Bush Quail type, and though slightly larger, are very close to those of *Microperdix erythrorhyncha*. In shape they are more or less lengthened ovals, more or less compressed or pointed towards one end; some are slightly pyriform, and others, though these are the exceptions, more of the true Partridge shape. The texture of the shell is comparatively fine and close, but it is everywhere pitted with minute pores, which, however, are much less visible in some specimens than in others. Some of the eggs have a faint gloss; in others this is scarcely traceable. In colour they vary a good deal: some are almost pure white, but the majority have a very perceptible creamy or very pale *café au lait* tinge.

In length they vary from 1·3 to 1·51, and in breadth from 0·98 to 1·1; but the average of thirty-three is 1·42 nearly by 1·02 nearly.

I HAVE MEASURED a great number of these in the flesh; the following are the dimensions:—

Males.—Length, 9·5 to 11·0; expanse, 16·0 to 16·75; wing, 4·9 to 5·75; the third, or occasionally the third and fourth, primaries are the longest; tail from vent, 2·0 to 2·5; tarsus, 1·1 to 1·2; bill from gape, 0·67 to 0·77; weight, 7 to 8 ozs.

Females.—Length, 9·0 to 9·75; expanse, 15·0 to 16·25; wing, 4·9 to 5·1; tail, 2·0 to 2·5; tarsus, 1·1 to 1·2; bill from gape, 0·62 to 0·71; weight, 5·75 to 8 ozs.

Legs and feet pale dingy wax yellow, in some greenish, in some dusky yellow; claws pale brown; the irides vary a good deal: they are generally either bright yellow, orange, or orange brown; but in some specimens they were dull red, and in some a bright brown; the bill is generally orange, somewhat dusky on the culmen; in some, however, it is a brownish orange red, and in the females, especially, often brown above and orange below, or even yellowish brown or ripe olive; the cere is generally a hoary orange red, sometimes only brown.

THE PLATE is most unsatisfactory. In the male the legs are utterly wrongly coloured, and the colours of the plumage are entirely misrepresented. The head is not a *clear greyish blue*, but a *dull grey;* there is not really a vestige of lake about the throat; the breast is a delicate vinous fawn, not brick red; the white spotting on the sides of the neck is much better defined than is here indicated. The female ought to be very much browner, and is altogether so bad that it is useless saying more about it.

ONLY ONE OTHER species of this genus is known, *A. heyi* (not *hayi*, as Heuglin gives it), from Western Arabia (extending just into Palestine near the Dead Sea), from both coasts of the Red Sea, and generally Egypt and Nubia, in suitable localities, as far South as the 18° or 19° of N. Lat.

$\frac{1}{2}$

ORTYGORNIS PONTICERRIANA.

THE GREY PARTRIDGE.

Ortygornis pondicerianus, *Gmelin.*

Vernacular Names.—[Titur, Ram-titur, Gora-titur, Safed-titur (Urdu, Hindi, Mahrathi), *Continental India;* Khyr* (Bengali, Uriya); Gowjul-huki (Canarese), *Mysore;* Kondari (Tamil); Kuwunzu (Telugu); Jirufti (Persian).]

THE Grey Partridge is found in suitable localities throughout the greater portion of India. It does not extend, however, to the Deltaic districts of Bengal, to Eastern Bengal or Assam, nor, *à fortiori,* to Aracan or Burma. A line drawn through Midnapore to Rajmehal, about, indicates its eastern boundary from the Ganges to the Bay of Bengal. From Rajmehal to Chapra, the Ganges, and from Chapra to the Terai, the Gogra, practically form its northern boundary, though isolated specimens from Purneah, Tirhoot, Basti and Bahraich have been reported or sent to me.

But it eschews dense forests and low-lying and wet lands, and in the vast area included within its range, as west and south of the boundaries above indicated, there are huge tracts, such as the Southern Konkan, the Malabar Coast, and the forest regions of the Central Provinces and their Feudatory States, and of the Tributary Mahâls, &c., where it is unknown.

Moreover, it does not normally ascend the hills to any considerable elevation (though I *have* known a straggler killed near Kalhatti, on the Nílgiris, at an elevation of 5,500 feet), and all the higher hills of Southern India and the Himalayas, above, perhaps, an elevation of 1,500 feet, must be excluded from its range.

It is common in the northern portions of Ceylon, and isolated specimens have been met with in other parts of the island. I myself shot it at Tuticorin, and saw it within a stone's throw of the square beacon that marks the southernmost extremity of the Peninsula.

Westwards of India, it occurs in all the lower hills between Afghanistan and the Punjab, and has been observed in the higher valleys of the Sulemán Hills, west of Dera Ghâzi Khan,

* This name is also applied to the Swamp Partridge.

and as far as Dhaka, 13 miles beyond the western debouch of the Khaibar. How far, if at all, it extends beyond this into Afghanistan, is unknown ; the country is probably too elevated and cold for it. It abounds in Southern Beluchistan, and in the warm low-lying plains of Southern Persia, finding its western limit, according to Major St. John, in Laristan, not far beyond the eastern out-let of the Persian Gulf.

In Mauritius, like the Chinese Francolin and our Common Myna, it appears to have been introduced.

Dry, warm tracts, interspersed with scrub or low grass jungle, in the neighbourhood of cultivation, are what it specially affects, and the stunted acacia or wild date thickets or prickly pear hedges, that so often encircle our villages, are favourite haunts. So, too, are the hedges in some parts of the country enclosing every field, the bush-clad banks of nallas and broken ground, and ravines running down to rivers, more or less thinly or thickly studded with low catechu, acacia or other scrub.

Morning and evening they will be found in the fields or pecking about on the highways and byeways, but their homes are in the scrub, or in low thorny trees, in which many of them, in such localities, roost, and on which they may be found perching, at times, at almost any hour of the day.

But provided the locality be dry and warm and the ground broken, no want of scrub or cultivation, no lack of trees and hedges, seems to banish them. I have shot them in the most desolate spots near the bases of the hills in Sind and on the Mekran Coast, where there were no *traces* of vegetation at the time, and where, in the best of seasons only, a few straggling tufts of grass and desert plants are to be seen.

The most noteworthy point about this species is its clear ringing inspiriting call, *ká, ká kateetur, kateetur*, which syllablize it as you will (and every one has his own rendering), once heard, is never to be forgotten.

In Upper India, these far piercing notes are so inseparably connected with our happy camp life and all its delights, that even in the dismal lanes of Calcutta the cry of a caged bird sends a thrill through one, and one seems to breathe again the pure air of the North-West, heavy with the scent of the mango bloom, and to forget for an instant the squalid surroundings of the fetid metropolis.

They afford but poor sport, but their call is so mixed up with so many reminiscences of sport, that every sportsman has, I think, some such feeling about it. Tickell says :—

" Again, in the morning, when the grass and the thickets are spangled with dew, and the welcome sun drives away the chilling fog of an Indian winter's night, the cheerful sounds are heard all over the awakening country—sounds redolent of old associa-

tions. The aroused camp striking its tents, the grateful cup of coffee by the log fire, the fragrant Manilla, the hum of the gathering column, the early march along the wild road."

Morning and evening the fields and groves re-echo with their cheery cry, and, during the spring and summer especially, it may be heard occasionally at all hours.

They feed on grain of all kinds, grass seeds and insects, especially white ants and their eggs, and on the young leaves of mustard, peas and other herbs.

Dig open an ant's nest in some scrub frequented by these birds, retire for 10 minutes, and the chances are that on your return you find half a dozen Greys busy at the nest.

They feed in fields, on stubbles, on ploughed land, and in any broken or scrub-clad waste, and are continually seen along paths and roads pecking the grain out of the droppings of passing animals. Boldly do they come out at day-break on to the open threshing floors of the native peasants, and many times have I surprised them on these, the vigilant watchmen fast asleep and tightly rolled up in their blankets floundering to their feet aghast at the double shot fired just over their heads. Unquestionably, in the neighbourhood of villages, at seasons when grain is scarce, these birds are inveterately foul feeders.

They run very swiftly and gracefully; they seem to glide rather than run, and the native lover can pay no higher compliment to his mistress than to liken her gait to that of the Partridge.

It is often difficult to flush them, but when they rise it is with a true Partridge whirr; and their flight is swifter and stronger, and they will carry off more shot than our English bird.

In many places they are to be found in pairs, but where they are really numerous, they often keep in regular coveys, a dozen rising within a small space if they are in ground in which they cannot run well.

As a rule, though a few are shot by chance shots every day, they afford little sport, owing to the rapidity and persistence with which they run. In beating a piece of scrub for hares, you may catch glimpses of a dozen Partridges scuttling away ahead. It is not worth going after them; you risk losing the hares and quail that you would otherwise certainly get, and the faster you go, the faster they go, rising at length generally out of shot. You may manage to head one and force him to rise; and every now and then, for some inscrutable reason, one decides to squat under some bush even in the midst of the scrub, and you unexpectedly get an easy close shot. Just when they reach the edge of the cover, they commonly squat, hesitating apparently to cross the bare ground in front; but unless you are very careful, they will turn back when you get near them and pass between the beaters, unseen, till they are forty or fifty yards in the rear.

But you may sometimes get good sport even with Greys. You may get them into standing crops ; gram by choice, when nearly ripe, very luxuriant, and grown in soil which breaks up into huge heavy clods (never broken or smoothed after sowing gram), and in this no bird *can* run.

In such places they are obliged to lie, and then they afford very good shooting. Near the junction of the Jumna and the Chambal, behind Bhurrey (and the birds swarm in the ravines all round), there were fields in which, year after year, I used, when the gram was just beginning to ripen, to bag for three or four successive days from ten to fifteen (and once I got 21) brace in a couple of hours shooting in the evening.

You may also have some fun, where the scrub is in moderate-sized patches, by hiding behind a bush outside one end, and putting the beaters in at the other, and so getting the birds driven over and past you. Of course you get hares also, and a buck possibly, and it is real lazy sport, as you can ride your pony from patch to patch, get heaps of shots, and never walk a yard !

Captain Butler says :—

" The most successful way of shooting Grey Partridge, so far as my experience goes, is to take a dog out with you ; any dog that will hunt about will do. The birds then, instead of running, fly up into the nearest trees the moment they see the dog, whence they can easily be dislodged and shot." I have tried this plan also with some success.

But, as a rule, they are not worth going after, and when shot even in places far from villages, they are hardly worth eating, since, cook them as you will, the flesh, though white, is hard, dry and insipid.

Partridge-fighting, the birds being naturally excessively pugnacious, is a very favourite sport amongst Muhammadans. Lucknow used to be a great place for this ; and they become very tame in captivity, and all classes of natives are fond of keeping them as pets, so that there is a considerable demand for these birds. As remarked by Mr. Reed, writing from Lucknow :—

" Good birds, *i.e.*, males, command a large price in the market, and the native bird-catchers are for ever after them, caring little how or when they effect their capture, whether in or out of season. Some of these gentlemen catch the young birds just after they have left the shell ; others again lift the eggs and hatch them under domestic hens. Their plan of capturing old males in snares, nets, trap-cages, &c., with the aid of call birds, answers well, judging from the numbers weekly brought into the market for sale. Sometimes the wild bird may be taken by the hand when engaged in fighting the call bird, which is let loose into the jungle for the purpose, but the surest way—and that I believe most generally adopted here—is to throw a net over them both."

Col. Tickell's account of one mode of capture is full and interesting. He says :—

"The pugnacious disposition of this bird renders it one of the easiest of all game to catch, and there is hardly a village in the wilder parts of Upper and Western Bengal where this amusement is not carried on. For this purpose, a tame one is placed in a small cage covered with strong horse-hair nooses, and carried out of an evening or early morning to the jungle. On arriving at a likely spot, the fowler blows two or three times upon the bird in the cage, an act which has the invariable effect of rousing the little captive into fury. It answers every puff by a shrill cry, and in a minute or so goes off into a paroxysm of rage and defiance, screaming and cackling challenges to all comers, in which state it is placed on the ground, dancing about in its cage, while the fowler retires behind some neighbouring bush to watch operations. The decoy bird's calls have been answered probably all round the coppice by the time its master is hidden, and ere long an exceedingly diverting scene, which I have more than once witnessed in Singhbhoom, ensues. One by one the wild cock birds, whose crows have been audible nearer and nearer, emerge from the covert, heads up, wings down, and tails spread, and, after showing off in a species of war-dance before the cage, the nearest rushes at it with a charge that would send it rolling off the scene were it not securely pegged to the ground. The bird within and the bird without engage furiously, *à la* Pyramus and Thisbe—but with kicks instead of kisses—through the intervening wall, till after a few interchanges of this nature, the assailant finds himself fast by the leg in one of the nooses. The fowler runs out, detaches the captive, and retreats with it to his ambuscade, whereupon the other wild birds, which have been scared away at sight of the man, quickly re-assemble, and the same scene is enacted with another champion, and so on, *da capo*, till the whole are secured, or till the decoy bird has become exhausted and sulky."

The Grey Partridge is found and breeds throughout the more open and drier plains country of India Proper. It eschews equally the more humid tracts of Lower Bengal, the Dúns and Terais that skirt the bases of the Himalayas, and the dense forests and forest-clad hills of Southern, Central, and Eastern India.

It breeds regularly twice a year, laying from the first week in February to the first week in June, and again from the middle of July to early in November. But I think that there are always more nests to be found in the spring than in the autumn, and I suppose, therefore, that all the birds do not have a second brood.

The nest, when there is one—for I have repeatedly found the eggs on the bare ground—varies from a few blades of grass,

a few feathers, or a few leaves, to a tolerably substantial pad-nest of grass and leaves. It is usually placed on the ground, under some large clod in a ploughed field, under a bush, or in a tuft of grass, but is sometimes fixed in the lower branches of some dense thorny shrub as much as three feet from the ground. Typically I should say the nest was a shallow depression well concealed under a bush or in a large tuft of high grass, and more or less neatly and thickly lined with grass.

I have never found more than nine eggs, and I have more than a dozen notes of finding only six, seven, or eight much-incubated eggs.

Captain G. F. L. Marshall writes from the Sahāranpur district:—

"The Grey Partridge breeds here from March till May. I saw a covey of young birds, about a week old, about the middle of April; again, on 7th April, I found seven fresh eggs, on the 23rd April I found eight slightly-set eggs, and on the 17th May I again found seven slightly-set eggs. In one case, the eggs were laid on a rough platform of grass and leaves in the middle of a tuft of high reed grass about eighteen inches from the ground; in a second, the eggs were on the ground at the foot of a tuft of grass; and in the third case, the eggs were in a cup-shaped hollow sunk in the ground, lined very neatly with feathers and soft leaves, in the middle of a little korounda bush which was growing on the top of a tiny mound."

Mr. A. Anderson says:—

"The Grey Partridge lays from six to nine eggs in April and May; the eggs are deposited in a hollow, which the bird scrapes out, most generally under the shelter of a clump of scrub jungle, and the standing grass is trodden down, which does for a nest lining.

"On the 4th April 1871, when out coursing on the *chur* lands opposite the Station of Fatehgarh, I flushed a 'Grey' which was feeding in an open field. It struck me at once that this was the male, and that the female must be *sitting* somewhere, because these birds invariably go in pairs, and this was their breeding season. Forming a line with my coolies, I beat every conceivable bit of cover (there was not a crop standing for miles), including a few clumps of *Sarpat* grass which grew in the form of a hedge. Giving it up as a bad job, I rode alongside of this grass hedge (it had been charred), and looking *down* into the centre of each clump, soon discovered what at first appeared a hare in her *form*, but which, on closer inspection, proved to be the Hen Partridge. The grass was again well beaten, and, as a last resort, handfuls of earth and small stones were showered in on her from above, but without avail. Seeing how futile were all my efforts to flush the Partridge, I decided on capturing her on her nest, which was effected by my horse-cloth-

ing being placed over the clump, and the coolies making a rattling noise round the bottom of the grass, which eventually had the effect of making her rise perpendicularly. The nest was carefully *fenced in* with grass-stocks of the thickness of an ordinary cane, so that ingress and egress for so big a bird must have been a matter of no little difficulty. A portion of the stalks having been cut away, disclosed nine eggs; eight were hard-set, the ninth was *abnormally small*, and *quite fresh*."

Capt. Butler remarks :—

"The Grey Partridge breeds in the neighbourhood of Deesa in February, March and April, and again in August, September, and October, in all of which months I have found nests.

"The following are a few of the dates upon which I have taken nests :—

6th February 1875	...	A nest containing	...	6 fresh eggs
9th March 1876	...	Do.	...	7 do.
28th April 1876	...	Do.	...	5 eggs incubated.
,, ,,	...	Do.	...	4 do.
29th ,,	...	Do.	...	5 slightly incubated.
6th August 1876	...	Do.	...	7 fresh eggs.
10th ,,	...	Do.	...	6 do.
9th September 1876	...	Do.	...	5 do.
15th October 1876	...	Do.	...	6 do.

"In almost every one of the above instances the nest was placed either in or under a thick tussock of grass."

The eggs vary in shape from slightly elongated ovals, a good deal pointed towards one end, to broad peg-tops, but an intermediate form is the most common. The shells are fine and glossy, and the eggs average decidedly smaller than those of our Common English Partridge. Their colouring, too, is of an entirely different type, and is the same as that of the eggs of the Bush Quails, while the English Partridge in this respect more resembles those of the *Francolins*. The eggs are white, more or less tinged with *café au lait* colour, this tinge varying much in depth and intensity, probably (though I have not accurately noted the fact) chiefly according to the stage of incuba ion at which they are procured. The eggs are spotless, but are often, especially the paler-coloured ones, a good deal soiled and stained. Not unfrequently they exhibit small raised chalky patches, looking like drops of thick whitewash.

In size the eggs vary from 1·2 to 1·42 in length, and in breadth from 0·95 to 1·12; but the average of fifty-four eggs is 1·3 by 1·03.

THE MALES average somewhat larger than the females, and have, moreover, a very sharp spur (in one specimen before me 0·67 in length) on each leg; indeed, specimens are occasionally met with in captivity (I have never seen one such wild) with *two* spurs on each leg.

The following are dimensions of adults :—

Males.—Length, 11·6 to 13·4; expanse, 17·4 to 20·0; wing, 5·3 to 6·0; tail from vent, 3·35 to 4·0; tarsus, 1·4 to 1·7; bill from gape, 0·87 to 0·96; weight, 9 ozs. to 12 ozs.

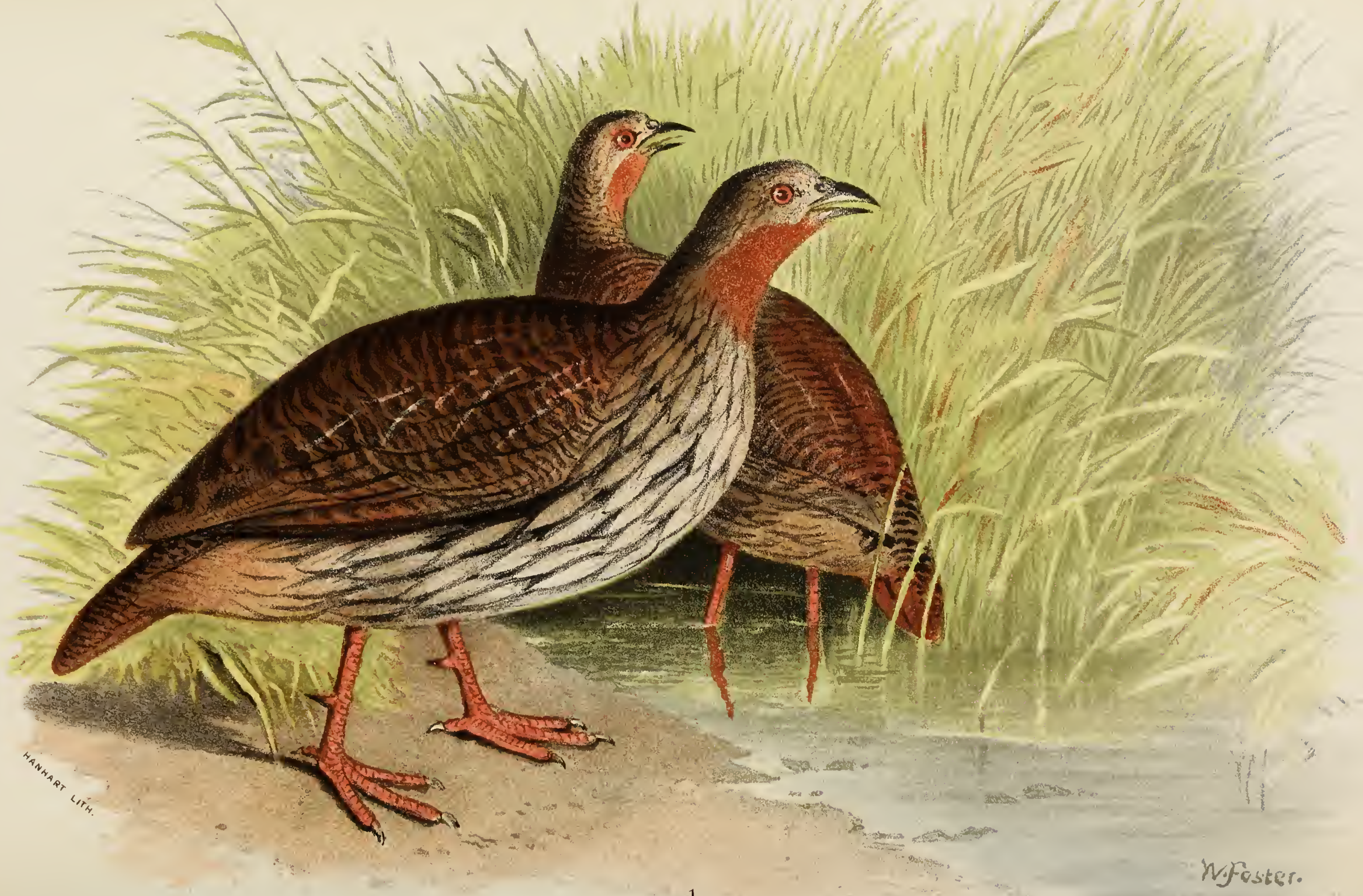
Females.—Length, 10·2 to 11·9; expanse, 16·5 to 18·3; wing, 5·0 to 5·68; tail from vent, 3·2 to 3·75; tarsus, 1·37 to 1·58; bill from gape, 0·75 to 0·89; weight, 7 ozs. to 11 ozs.

The legs are bright red; the feet somewhat dingier; the claws pinkish brown; the spur, in the male, pink at base, brown at tip; the irides are dark brown, with a row of tiny whitish feathers at the edges of the lids; the rest of the skin round the eye greenish grey; bill dusky brown or blackish; lower mandible and gape paler, in some whitish, in some a dingy greenish grey.

THE PLATE is fair, but the general colouring is rather too bright, the barring on the breast is somewhat too coarse, the bills are not nearly dark enough, and the feet should be more dingy.

In some specimens the throat, instead of being a fawny white, is a decided rufous, and occasionally specimens are met with in which this part is ferruginous, as figured by Temminck.

In some parts of the country the birds are altogether greyer and paler than the specimens we have figured.



$\frac{1}{2}$

ORTYGORNIS GULARIS.

THE KYAH OR SWAMP PARTRIDGE.

Ortygornis gularis, *Temminck.*

Vernacular Names.—[Kyah, Kair, Kaijah, *Bengal,* &c.; Bun-teetur; Jungli-teetur (Hindustani); Koi, Koera, *Assam*; Bhil-titar, *Cachar*;]

THE range of the Swamp Partridge is as yet ill defined, and its distribution very local and apparently capricious. It occurs here and there throughout the Terai region which skirts the southern bases of the Himalayas from Pilibhít to Sadiya, our easternmost station in Assam. It occurs in places along the banks of the Gogra, and along the northern bank of the Ganges (crossing, in some parts of the Monghyr, Bhágulpur and Rajmehal districts, to the southern bank also) from near Benares to Bhaulia. It is found in the Jessore Sunderbans, in Dacca, Dinagepore, Rungpore and Maldah, and along the Megna and Brahmaputra and the lower courses of rivers running into these, in Tipperah, Sylhet, Cachar, Goálpára and every other of the Assam valley districts, north and south of the Brahmaputra, right away to Sadiya. It does sometimes ascend the hills, for the late Captain Beavan obtained it at Chera Punji at an elevation of 4,000 feet. Mr. Damant* writes that he has shot it at the foot of the Gáro Hills, but that it is *not* found in the Nága Hills or in Manipur.

It does not occur, so far as is known, anywhere in British Burma or anywhere outside our limits.

HIGH GRASS jungle (often mingled with cane brakes and thorny thickets), in the neighbourhood of large swamps or on or near the banks of the larger rivers and their tributaries, seem to be almost exclusively the habitats of this fine species, of which personally I have seen but little.

* Mr. Damant says:—"I have shot this species in the districts of Dinagepore, Rungpore, Maldah, Sylhet, Cachar, and the Gáro Hills It is not found in Manipur, nor in the Nagá Hills, and, to the best of my belief, it is never found in any hills I have shot it in the Gáro Hills, but only in low ground at the foot of the hills, and never in the hills themselves. It is common on the Brahmaputra churs, and it breeds in all the districts I have mentioned above."

"It frequents," says Colonel Tickell, "wild places—a sandy soil with thickets of the jungle rose, babool, and other thorns, alternating with beds of reeds and elephant grass, and always near water. It resorts also to such cultivation as lies within half a mile or so of the river, such as 'surson' (mustard), 'urhur' (dal), and 'chunna' (gram), but shuns paddy fields, grass meadows, or tree jungle. Very early of a morning, or in the evening, it may be stalked on foot and potted; but the proper way of shooting this bird is to penetrate the thickets and 'nul bun,' or reed jungle, on elephants, and with a large force of beaters, when the 'khyr' affords as good a day's sport as may be had in a pheasant covert in England. When first beaten up it rises freely, but well within shot, with a loud flurry and often a shrill cackle, and its size makes it an easy shot when the young sportsman becomes used to its sudden flush, and his elephant ceases to start at the sound. If missed, it does not fly far, but it is almost impossible to force it to take wing again; and a winged bird runs at such a rate, doubling and skulking in the covert, that without good dogs it is hopeless to search for it.

"Early of a morning and in the evening, during the cold season, the shrill calls of these birds resound along the shores of the river. The notes are so like those of the Grey Partridge that the slight difference which exists can hardly be described in writing. There are the same preliminary 'chucks' and the same syllables, something like *chuckeeroo*, *chuckeeroo*, *chuckeeroo*; but a tolerably observant ear can at once distinguish the crow of the two birds. The Grass Chukor is, I should say, much the more clamorous of the two. They call to each other, constantly repeating the above strain, till about 8 or 9 A.M., when the sun has dried up the grass. It is a cheery and not unmelodious sound, and familiar enough to the traveller of former days, as his bujjra or pinnace lay moored to the bank, in the gathering twilight, or the first grey 'gloaming' of the morning —when the early breeze off the glorious river wooed him to hasten through his matutinal coffee and cigar, and range, gun in hand, along the shore; or after the diurnal voyage, when fading daylight casts long shadows on the stream, he sat lounging on the poop, letting the tiny wreaths from his Manilla melt into the purple eve, and watching the cooking fires of the crew scattered along the bank, sitting and musing till night fell around and the birds' voices were still.

"Near Pyntee, a very favourite beat for the Grass Chukor, was a swampy tract of some fifty or sixty acres, covered with clumps of elephant grass, and surrounding a deep, muddy pond, or 'nasee,' about 300 yards in length and 150 in breadth, which was remarkable for the multitude of crocodiles its turbid waters sheltered.

"A writer in the *Bengal Sporting Magazine*, quoted by Jerdon, says that in the rains, when its usual haunts are flooded, the

Grass Chukor betakes itself to the fields, hedgerows, and bush jungle, and at this time affords good sport even to the sportsman on foot; and that in some localities, when flooded, the 'kyah' may be seen flying from tree to tree. Never having visited the birds' haunts during the rains, I have never seen it driven to such insessorial habits, but I know they will occasionally, when calling, perch a little way off the ground on the stalks of reeds and sometimes on a small bush. Like the Grey Partridge, the 'kyah' is a very pugnacious bird. A writer in the above-named Magazine says that almost every one examined will be found scarred and marked with wounds from fighting. It is said also to drive off the Black Partridge if it comes across it; but this, as far as my experience goes, I have not found to be the case, as I have several times come upon them in the same covert, and remember one day at Pyntee beating a patch of grass and making up a tolerably heavy bag out of it with birds of both species, flushed indiscriminately, and in a manner which showed they must have been feeding or reposing very near each other.

"For the table the 'khyr' or 'kyah' is not in much repute amongst the very few who are acquainted with its flavour. The young, like the young of the Grey Partridge, are tolerably good, but old ones are dry and hard. However, the writer in the *Bengal Sporting Magazine*, already quoted, eulogises the bird as 'bearing the palm for delicacy of flavour and texture in the meat of all the game birds of India!' 'During the months of November and December,' continues he, 'it forms an unrivalled dish for the epicure in gamey flavour, and an additional inducement to sportsman to fag and find.' I suspect the fagging and finding are very necessary ingredients to furnish that renowned sauce of Spartan origin, without which the 'khyr' would be little esteemed."

Mr. Cripps writes to me:—

"In the Dacca and Sylhet districts, where I have seen this species, it was a permanent resident and tolerably common. Swampy, or at any rate damp, ground, covered with long grass, brushwood and reeds, is its favourite resort. Along the banks of the 'Kusiyára' River, in Sylhet, I often used to shoot it; the banks are covered with long grass and brushwood, intersected by small *khals*, and boasting, at intervals, of occasional patches of mustard or pulse. In the mornings and evenings the birds used to be found on the outskirts of these cultivated patches; on the least alarm they sneak into the jungles. Very careful stalking is required to ensure a shot. One of the number is always posted as a sentinel on the top of some bush. The plan I found to succeed best was to beat the jungle, and, whenever a bird was flushed, to mark it down and then beat carefully up to where it had alighted; it would then rise within easy range, whereas, if *any* shot offering is taken, the chances are that you miss and frighten the birds, so that they will

not rise again. They go about in small parties and in pairs. The call is similar to that of the Grey, but with the last note omitted."

Colonel Graham tells me that "the Swamp Partridge occurs throughout the whole of the Darrang district of Assam lying along the north bank of the Brahmaputra, and also on the churs of that River on which high nul grass exists.

"The bird also extends eastward into the North Lakhimpur district, going as far east as Sadiya ; but here it is rare, and there can be no doubt that after leaving the Darrang district it decreases rapidly in numbers.

"The high nul grass on the banks of nallas or marshes, as also the high grass round the mustard fields, are its favourite resorts ; and, in the great majority of cases, three birds are found together—possibly the two old birds, and a young one."

Mr. J. Inglis writes :—

"It is quite common in the low lands of Cachar, and may be heard calling in the bhíls (or swamps) night and morning. I have frequently heard it calling during the night, especially on moon-light nights. I sometimes put it up with my dog along the edges of jungle ; but to try and shoot them in numbers requires elephants, as it is quite impossible to follow them up on foot."

Mr. Damant remarks :—

"It is nearly always found in low swampy ground, and never far from water ; the birds lie in coveys of six to ten ; and in the morning and evening may often be found on the edge of the jungles feeding in the open ; they are easy to shoot, as they fly straight and not very rapidly."

Mr. H. J. Rainey says :—

"This species is found throughout the south of the Jessore district, including the cultivated parts of the Sunderbans portion thereof. They inhabit heavy *hogla (Typha elephantina)* jungle growing on the banks of rivers and smaller streams, and issue out of this dense cover in the cool of the forenoon and afternoon to feed in the adjoining open ground and rice fields. These are the only times that the sportsman has any chance of being able to flush them, but then, if aided by a couple of beaters or a dog, or even alone, by simply moving along the outer edge of such jungle, he may obtain a few shots. They rise with a sudden whirr, accompanied by a sharp cackling noise, apt to unsteady the nerve and aim of a novice in this description of *shikár*.

"Swamp Partridges are occasionally snared in rice fields, &c., where they come to feed. They thrive fairly in captivity if caught not over a season old and kept in a large cage built on the ground, with *jafri* or trellis work on the sides, and a light thatched roof above ; but I have never seen them breed in confinement. They should be weli fed with paddy or unhusked rice, which they will eat freely."

VERY LITTLE is known of the nidification of this species. In fact, the only record I have about it is a note sent me by Mr. H. J. Rainey, with a nest and five eggs taken by him near Khoolna in Jessore. He says:—

"I took the nest, which had been discovered and marked for me by one of my tenants, on the 13th April 1875. On approaching the spot, we heard the loud cackling of the bird, as if it had been disturbed by our approach; and, on drawing close, she (for I suppose it was the female) rose and flew away. I had no gun, so did not shoot her, but saw her so distinctly that there could be no possible mistake about the matter.

"The nest was placed on the ground in a patch of *khar* and *kashiya*, *i.e.*, thatching or serrated grass and spontaneous sugar-grass (*Andropogon serratum* and *Saccharum spontaneum*), close to the margin of a dry tank covered with dense jungle, and about half a mile from the nearest human habitation.

"The nest was rather neatly constructed of the thatching grass; circular in shape, about seven inches in diameter, one and a half in thickness at the sides, and perhaps half an inch in the centre. The nest was fitted into a saucer-shaped depression in the ground, and the egg cavity was about four inches in diameter and two in depth.

"The eggs, five in number, were all perfectly fresh and still quite warm when I removed them."

The eggs are broad ovals slightly pointed towards one end, and one or two of them slightly compressed there. The shell is stout, full of pores, but withal glossy. In colour the eggs are somewhat pale *café au lait*, and all exhibit somewhat more or less distinctly a pale purplish or purplish brown speckling or stipling about the larger end; one or two of them also show signs of similar markings in other portions of the egg. Though very much smaller and fainter, these markings indicate an approach to *Caccabis chukor*.

These five eggs vary from 1·44 to 1·5 in length, and from 1·16 to 1·23 in breadth.

Hodgson, I may add, notes that this species lays from 10 to 15 eggs, but I do not gather that he himself ever took a nest.

I HAVE BUT few measurements of this species; but gather that the females are smaller than the males. A *male* measured:—Length, 15·5; expanse, 23·75; wing, 7·25; tail from vent, 4·5; tarsus, 2·5; bill from gape, 1·01; weight, 18 ozs. Another:—Length, 14·7; expanse, 21·6; tarsus, 2·7; bill from gape, 1·2.

The bill in the male is black, whitish horny at the extreme tip of the upper mandible; in the female it is rather browner; the irides deep brown; skin of eyelids obscure greenish grey; the legs and feet litharge red; spurs and claws horny brown.

THE PLATE is most unsatisfactory. The birds are neither well drawn nor correctly coloured. The throat patch is really a rusty ferruginous ; the back is brown, barred with buff, and exhibits no trace of the red tinge which the artist has introduced. The bird has not red eyes ; there is no red about them so far as I know. The broad pale centres of the feathers of the lower parts should be less closely set, and should be very pale buffy white, and these are really margined first with blackish brown, then with a clear moderately light brown, all of which is ignored in the plate. Lastly, there is no reason to believe that these birds deliberately stand about in the water like waders.

OUR TWO species are the only known ones of the genus.

$\frac{1}{2}$

PERDIX HODGSONIÆ.

THE TIBETAN PARTRIDGE.

Perdix hodgsoniæ, *Hodgson.*

Vernacular Names.—[Sakpha (Tibetan), *Tibet.*]

THE Tibetan Partridge only just crosses from Chinese Tibet into our territories.

The first specimen, indeed, ever shot by an European was killed by Mr. Wilson in the autumn of 1841, when shooting Chukor in the fields near Sukhi, a village high up in the valley of the Bhágirathi and near the snowy range, in which, a few marches eastwards, Gangotri is situated. But it has never since been met with on the southern side of the first snowy range, though year after year Mr. Wilson hunted for it in this same locality. Subsequently it has been repeatedly met with on several of the passes leading from the valley of the Indus to the head of the Pangong Lake, and about the lake itself; it has been shot near the Buddhist monastery at Hanle, and near the foot of the Lanak Pass; and it has been obtained at the extreme north of both Kumaun and British Garhwál.

Nowhere else has it been observed within our limits.

Hodgson, who first discriminated the species, received his type from the Tibetan province of Tsang, immediately to the north of Nepal, and Mr. Mandelli has procured many specimens from that portion of Tibet which lies north of Sikhim.

Doubtless it extends westwards throughout the high bare inner ranges of the Himalayas and the desolate plateaux they embastion as far, or nearly as far, as the Changchemno valley; but it does not apparently extend further west here, as it was seen by none of our explorers, Shaw, Henderson, Stoliczka, Scully, Biddulph, who, by a variety of routes, crossed and re-crossed, some of them no less than six times, the mountain masses lying between Ladákh and Yárkand.

Eastwards and north-eastwards of the Pangong, I do not doubt that it occurs everywhere in suitable localities throughout South-eastern Tibet, extending as far north and east as Kansu, where Prjevalsky (who re-named it *sifanica*) obtained it.

ONLY ON ONE occasion, and then on the desolate steeps of one of the high passes leading from the valley of the Indus to the head of the Pangong Lake, have I ever seen this handsome Partridge alive.

This was in June, at an elevation of perhaps 17,000 feet, and not very far below the then snow line.

The birds were in pairs, apparently far from wild, but absolutely invisible when amongst the bare stones and rocks, and I should certainly have passed them unnoticed, but for their vociferous calls, which seemed to me so like those of our English bird, that I took some trouble in searching the neighbourhood with the dogs. I put up several pairs, and shot three or four. I noticed that when flushed they only flew a short distance, and that their whirring rise and flight were precisely that of the European bird and very different from that of the Chukor.

The entire aspect of the hill side where these birds were found was dreary and desolate to a degree—no grass, no bushes, only here and there, fed by the melting snow above, little patches and streaks of mossy herbage, on which, I suppose, the birds must have been feeding. But, alas for the depravity of uneducated human nature, I never took the trouble to measure them or ascertain what they had fed on, content, in my ignorance, that a few days later they fed me, and proved excellent eating.

The vertical range in the Himalayas is probably from 12,000 to 19,000 feet, according to season and the local height of the snow line, but further north they descend to somewhat lower levels, and seem to affect less inhospitable tracts.

Prjevalsky says :—

" We found this bird in the alpine regions of Kansu (it does not extend further northwards), principally in the rhododendron thickets about the sources of the Tutunga, where the mountains are covered with small tufts of *Potentilla tenuifolia.* It descends to the plains, which, however, are not at a lower elevation than 10,000 feet above the sea level.

" Its habits are very similar to those of *Perdix barbata,* only the voice is different. When taking to wing, it utters a more squeaking but louder note than this latter, and its call-note is also harsher."

I have never heard the note of *P. barbata ;* but this is little more than a variety of our English bird, and I should say that, though it may sound louder amid the stillness of the high mountains, the note of the present species is *very* similar to that of *P. cinerea.*

Lieut. W. J. Smith, then of the 75th, quoted by Gould, says, that he procured his specimen, a male, which Gould figures (B. of As. P. IX., pl. 2) near the Pangong lake:—" I found it with its covey of young ones, which were just out of the shells. Some

of the chicks hid themselves under the rock on which I was sitting, and the old bird came near enough to be killed with a stick. It made a great noise, ran remarkably fast, and did not take wing until very hard pressed. The hills in the neighbourhood were of a rugged and barren character and destitute of forests and brushwood for about 100 miles."

MAJOR BARNES, the only European, so far as I know, who has ever taken the nest within our limits, wrote to me about it thus:—

"This is what you may rely on, as I noted the facts at the time. I flushed the bird myself off the nest on the 12th July 1872. The nest was at an observed elevation of 16,430 feet. *I think* (but am not now quite sure) that the nest was a mere indentation in the ground; it was in grass amongst low dwarf bushes. It contained ten eggs, *all* perfectly fresh. The pass on which I found the nest leads from the Pangong valley to the Indus valley, and is very high. I did not take the elevation, but estimated it at 19,000 feet, as my camp, after crossing the summit and descending some considerable distance, was pitched that night at 17,745 feet. There was a great deal of snow on the summit, which is perpetual; the snow-line at *that season* I should say was *about* 18,500 feet. The name of the pass is the Oong Lung La. The birds were neither scarce nor plentiful, but there were enough to make the obtaining a specimen, if required, a matter of certainty."

Of these eggs I have only one. This is in shape a long oval, obtuse at one end and sharply pointed at the other. The shell is hard, compact, and everywhere closely pitted with minute pores, but it is very smooth notwithstanding, and has a very fair amount of gloss. The ground is a pale drab, or clay colour, but the whole of the large end has a faint reddish brown tinge, as has also the extreme point of the smaller end.

The egg measures 1·77 in length by 1·2 in breadth.

Prjevalsky tells us that:—

"The number of eggs in one clutch is about fifteen, or perhaps even more. At the end of August the young were only about half as large as their parents, which latter were moulting fast at that time.

"In the beginning of April we re-visited Kansu, and found these birds already paired; but the females were not sitting even in the beginning of May, although some eggs were deposited."

FOR MANY many years now I have endeavoured to obtain measurements in the flesh and an accurate record of the colours of the soft parts of this species; but though, thanks to Messrs. Wilson, Mandelli and others, I have received several specimens, these were all collected by natives; and the only exact information

available to this day on these points, is that recorded by Mr. Hodgson, the original describer of the species, though Wilson, it is true, does say that he particularly noticed that the naked skin round the eye was large, of a velvety texture, and a rich crimson colour.

Hodgson says :—

"The size is as follows :—

"Tip of bill to tip of tail, 13·0; expanse of wing, 18·0; a closed wing, 6·12; bill to gape, 0·87; bill to brow, 0·75; tail, 4·0; tarsi, 1·75; central toe and nail, 1·5; weight, 1℔.

"Bill, legs and feet horn green; orbits rather nude, red."

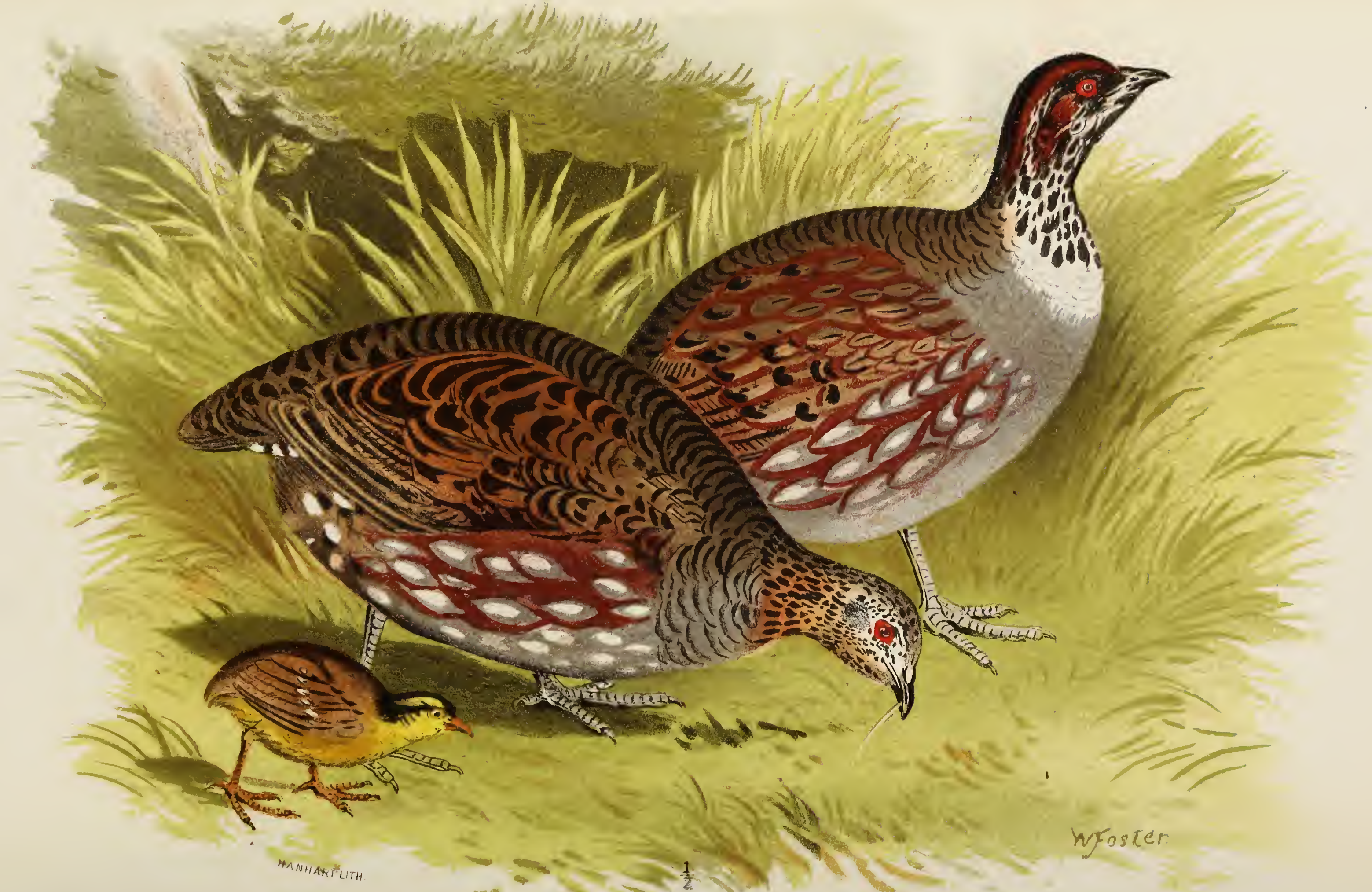
According to skins, the bird varies from 11 to 13 inches in length; the wing is from 6·0 to 6·6: in a younger bird only 5·75; bill from gape, 0·75 to 0·9; tail, 3·25 to 4·0; tarsi, 1·55 to 1·7.

Like the European Partridge, both sexes are devoid of spurs.

THE PLATE, though coarse and too highly coloured for the great majority of specimens, is fairly good. I have one very bright specimen, with which the plate would accord well if only the red in it was a little toned down to more of a maroon chestnut. But the majority of birds are *much* duller coloured and greyer, and, judging from my one just freshly-moulted specimen, the plumage of this species must fade and bleach rapidly.

The nude crimson eye-space is not adequately depicted in the plate.

SOME ORNITHOLOGISTS separate this species in a distinct genus of its own; but assuming that it should not be generically divided from our Common English Partridge, we then still have only three known species in the genus. First, the present one; secondly, our home bird, *P. cinerea*, extending, except in the extreme north, pretty well all over Europe, though rarer in the south, and through Asia Minor to the western portions of Persia; and, thirdly, the Asiatic representative of this, *P. barbata* (differing chiefly in its smaller size, longer and more pointed throat feathers, and *black*, instead of chestnut, horse shoe on the lower breast), which, common in S. E. Siberia, Mongolia and Northern China, extends, in our direction at any rate, to the Kokonor Mountains, and other localities in the north-eastern districts of Chinese Tibet.



ARBORICOLA TORQUEOLA.

THE COMMON HILL PARTRIDGE.

———o———

Arboricola torqueolus, *Valenciennes.*

———o———

Vernacular Names.—[Peura, Ban-tetra, Bun-teetur, *Kumaun Garhwâl* and *westwards;* Kaindal, *Kangra;* Kohempho (Lepcha); Kangkom (Bhútia), *Sikhim*]

———o———

FROM the eastern borders of the Chamba* Territory, and at least as far as the left bank of the Ravi, to the eastern boundary at any rate of Sikhim, the Common Hill Partridge is found in suitable localities throughout the outer ranges of the Himalayas.

Westwards of the Ravi, it may occur. I have no information on the subject, but it is pretty certain that it does *not* extend far into Kashmir, or *some one* would have recorded it thence.

Eastwards of Sikhim it may extend into Bhútan, but it was not observed a little further east by the Dafla expedition, who obtained only the next species, the Rufous-throated Hill Partridge.

It appears possible that this species may also occur in the Nága Hills, as Major Godwin-Austen thus finally identified specimens obtained there by Capt. Butler and Mr. Roberts. Major Austen, indeed, treats the Nága Hill bird as a *variety*, but chiefly on the strength of Dr. Jerdon's erroneous statement that the legs of the present species are "*red*," which, of course, they never are.. *Primâ facie*, it might seem more likely that the Nága Hill bird should be distinct, but as the only distinction on which Major Godwin-Austen relies is invalid, we must, for the present, assume the birds to be identical.†

This species, so far as is yet known, occurs nowhere outside our limits.

THE COMMON HILL PARTRIDGE haunts dark, densely-jungled water-courses and ravines running down the hill-sides, and never,

* It is common in Kullu, and Dr John Harvey writes from Chamba: "It is fairly common about the Hathi-dhar Mountains, about five miles north-west from Nurpur, in the Kangra district, but seems never to have been met with in Chamba, on the northern side of the Kangra Range. nor have the Raja's falconers ever seen it above Chand, close to Sindhara, on the Ravi, about 7½ miles from Dalhousie. I think it very probable that it crosses the Ravi into Kashmir, but it possibly may not."

† But note that his dimensions, wing, 5 32, &c., are very small for true *torqueolus*.

if it can avoid it, rises when disturbed, but threads its way under the fern and brushwood, up or down-hill, with equal facility. As a rule, it keeps at elevations of from 5,000 to 8,000 feet. Dr. Stoliczka, I know, says it is generally found near the limit of trees or close to the snows, *i.e.*, between 12,000 and 14,000 feet ; but this is only because birds at this elevation, where the undergrowth is scant, are easier seen and flushed ; and if he had had good dogs, he would have found twenty Peuras below 8,000 for one above 10,000 feet.

I have shot numbers of these, most commonly in November, when the undergrowth has, in the North-West, mostly died off, and I have then habitually found them in coveys, as a rule, seven or eight in number. But looking back, I cannot remember anything else to record about them, except that they occur in just such dark ravines as constitute the favourite haunts of that ugly beast (part goat, part antelope, and part pig—I refer to *looks* only) the Surrow, and that, when flushed, they fly low and swiftly, and, if not knocked down at once, are out of sight behind bushes and trees before you well know what you are about. I cannot remember ever seeing one until flushed by the dogs,* and so naturally can say nothing of their habits.

My friend Mr. Wilson says :—

"This handsome little Partridge inhabits the forests and jungles, and is never found in open spots or cultivated fields. It is most numerous on the lower ranges in the wooded ravines and hill-sides from the summit to near the base, but does not occur at the foot of the hills or low down in the valleys. It is not so common in the interior, but is met with to an elevation of about 9,000 feet. It is rather solitary in its habits, generally found in pairs ; but occasionally, in autumn and winter, five or six will collect together and keep about one spot.

"It is a quiet unsuspicious bird ; when alarmed, it utters a soft whistle, and generally creeps away through the underwood, if not closely pressed, in preference to rising. Its flight is rapid, oftener across the hill than downwards, and seldom very far ; in general, not more than 80 or 100 yards. Its food being very similar, it is met with in the same places as the Koklass Pheasant, and both are often found together. Indeed, in winter, in some of the forests of the interior, Tragopans, Moonal, Koklass, and Kalij Pheasants and the Hill Partridge are at times all found within a compass of fifty or sixty yards.

"It feeds on leaves, roots, maggots, seeds, and berries ; in confinement it will eat grain ; in a large cage or enclosure its motions are very lively, and it runs about with great sprightliness from one part to another. It occasionally mounts into the trees, but not so often as a forest bird might be expected to do.

* The scent of these birds lies very strong, and I have noticed that dogs go at once off the scent of Pheasants to follow up that of this species.

In the forests of the interior, in spring, it is often heard calling at all hours of the day. The call is a single loud soft whistle, and may be easily imitated so as to entice the bird quite close. At other seasons it is never heard to call, except when disturbed."

Hodgson notes that this species "tenants the deepest forests at all elevations, keeping to their interior. I have seen them in the very centres of the huge damp forests descending from the summits of some of the higher hills.

"They constantly perch. At the top of Pulchook I flushed a covey of eight or ten, which flew widely scattered, all alighting on the highest trees."

I have never seen them *alight* on a tree, but more than once have had them start out of trees over my head.

Col. Tickell remarks:—

"I have met with them in ones and twos, sometimes in a small covey of five or six. They are not wild, trusting apparently to the dense covert they frequent for safety; and I have sometimes sat down on the hill side, and, after remaining quiet for a few minutes, heard their little feet pattering and scratching over the fallen leaves close to me. Now and then one would emit a low soft whistle; and in places under the bushes, where no grass grew, one or two might be seen picking and pecking as they glided along under the leaves. In these bare spots they would sit or lie on their sides, scratching and throwing dust over themselves. A very little movement would send them all into covert as suddenly as if they had disappeared by magic, and by striding hastily into the bush where they had been last seen, it was possible sometimes to flush them and get one, or a hasty right and left shot; but a more difficult one cannot be imagined, for they fly with the sudden startling flush and flurry of the Partridge, with great speed, and so low over the underwood as barely to afford aim enough to be reckoned even a snap shot."

This latter is true enough, and they afford no regular sport, as it is perfectly useless looking after them; but when shooting Pheasants, the dogs continually put them up, and you may often include three or four brace in the day's bag. Flying as they do, they help to diversify the day's sport, as a Snipe does at home when you are Pheasant-shooting.

They are very good eating when you can get nothing better; when you *can*, put them in the Blaize Pot (or Hunter's Stew as some call it); they do not repay separate cooking; they are too dry.

I may note that, in some parts of the hills, the shepherds do not like your killing these birds; their call is precisely like the whistle by which the shepherds call their flocks, and these worthies will, in places, gravely maintain that the birds are animated by the souls of their (the shepherds') deceased *confrères*.

I KNOW nothing of the nidification of this species. I am now convinced that the eggs and nest near which the two Hill Partridges were snared (described in "Nests and Eggs," p. 545) must have belonged to Black Partridges.

The present species is *said* to lay six or eight *white* eggs, and I believe this, because this is the character of the eggs of other species of Hill Partridge that we have taken.

Can the three eggs of "a light brown colour" obtained by Godwin-Austen at the head of the Jhiri River in S. Cachar have really belonged to *any* species of *Arboricola?*

THE MALES average decidedly larger, but, in a large series of measurements, I find females as big as many of the males, so do not think it necessary to give the dimensions separately of the two sexes:—

Length, 10·5 to 12·0; expanse, 18·0 to 19·25; wing, 5·7 to 6·2; tail from vent, 2·75 to 3·25; tarsus, 1·6 to 2·0; bill from gape, 0·8 to 1·0; weight, 8 ozs. in a small female to 13·6 ozs. in a large fat male.

The bill is black, brownish on culmen and gonys in some females; irides brown, deep brown, reddish brown; orbital skin in old males (rather granulated and dotted with abortive feathers) and a spot at the gape, crimson, varying in less adult males and females to purplish red; legs and feet blue grey or slatey grey, more or less tinged with reddish fleshy. Austen says of the Nága Hill bird, pale violet fleshy, which is near enough. Scully says of a female, brownish olive, and Jerdon says *red!* All the birds, over twenty in number, of which I have recorded the colours of the soft parts, had them as above described. Certainly the legs and feet *never* in this species are *red*, and I think that, even in the case of Scully's bird, the colours must have changed (which they do *very* rapidly in summer) before he recorded them.

In young birds the orbital skin is blue grey only tinged with red, and the legs and feet are slatey grey, only here and there tinged livid fleshy.

THE PLATE is fair, but the colours are not right. In both male and female an olive green tinge on the back is required; in the female, too, the breast should be suffused with an olive shade, and in both sexes the legs and feet want a fleshy reddish or pinkish tinge.

NO LESS THAN eight (and some would say nine) of these Arboricolas are said to occur within our limits, and the following key may assist in their discrimination.

So far as we know, the plumage of the males and females is identical in all the species but *torqueolus*. I have fancied that

it might differ also in *mandellii*, of which no sexed specimens have as yet been obtained ; but Mr. Mandelli, who has now procured some dozen specimens, informs me that this is not the case :—

Upper back and interscapulary region.			
I. Feathers conspicuously barred or fringed with black.	1. Breast pale uniform grey.	Top of head greyish olive, more or less black spotted.	*A. atrogularis.*
	2. Breast uniform, tawny, or ferruginous olive.	Middle of throat pale fawn colour, densely black spotted.	*A. brunneopectus.*
	3. Breast rufescent olive, barred black.	Chin, throat and sides of neck white, spotted with black, not enclosed by a black band.	*A. chloropus.*
	4. (*a.*) Bieast pale ashy, surmounted by a broad white band.	Top of head uniform bright chestnut. ♂	*A. torqueolus.*
	(*b.*) Breast grey, tinged rusty.	Middle of throat unspotted rufous ♀	
II. Feathers unbarred and unfringed, or scarcely perceptibly fringed darker.	1. Lower margin of rufous of throat sharply defined by a black line, breast grey.		*A. rufogularis.*
	2. Lower margin of rufous of throat sharply defined by a black line, breast maroon chestnut.		*A. mandellii.*
	3. Lower margin of rufous of throat meeting grey of breast without any intervenng black line.	Centre of throat more or less uniform black.	*A. intermedius.*
		Centre of throat rufescent spotted with black.	*A. tickelli* (*i. e.* Tenasserim form of *rufogularis*).
III. Feathers freckled and mottled with darker brown, shafts pale buffy.	1. Chin, throat and sides of neck white, spotted with black spots, enclosed in an irregular black band.		*A. charltoni.*

$\frac{1}{2}$

ARBORICOLA RUFOGULARIS

THE RUFOUS-THROATED HILL PARTRIDGE.

———o———

Arboricola rufogularis, *Blyth.*

———o———

Vernacular Names.—[Kohumbut-pho (Lepcha), Lakom (Bhútia), *Sikhim;* Pokhu, *Daphla Hills;* Peura, *Kumaun;*]

———o———

FROM the western boundaries of Kumaun, through Nepal, Sikhim and Bhútan to the Daphla Hills, the Rufous-throated Hill Partridge occurs in suitable localities throughout the lower outer ranges of the Himalayas. It may occur, but of this I am not certain, further west than Kumaun. Eastwards, again, we are quite ignorant how far it extends beyond the Daphla Hills, which lie north of the Darrang district.

Dr. Jerdon says he got it on the Khási Hills, but this has not been confirmed by either Godwin-Austen or my collectors; and birds from Cachar and the Nága Hills which Austen originally referred to this species in his earlier papers have been later assigned by him to other species, *intermedius* and *torqueolus*. From the Himalayas, southwards, we have, therefore, no certainty of its occurrence until, in the higher ranges of Tenasserim, we again meet with a slightly modified race of it,* which is especially plentiful in the neighbourhood of Mooleyit.

Very probably this Tenasserim race extends into Independent Burma and Siam, but at present we have no knowledge of its occurrence anywhere beyond British limits.

THIS SPECIES has a much lower range than the preceding. I have shot it quite at the base of the hills, and I have never seen it at an elevation exceeding 6,000 feet. No doubt I have seen much less of it than of the Common Hill Partridge, but the experience of others confirms my own.

Thus Beavan says :—

"This species is much more abundant than *A. torqueolus* in Sikhim, and near Darjeeling inhabits a lower zone than the

* The differences of this race, which some will doubtless consider of specific value, will be pointed out later on.

preceding, of from 4,000 to 8,000 feet* in elevation. It is found generally in coveys, and numbers are captured by the Lepchas by calling them within shot, and taken into the station of Darjeeling for sale. These birds frequent such dense cover that shooting them in any other way is almost out of the question."

Hodgson says that in Nepal this, the red-legged species (which he was the first to discriminate under the name of *rufipes*, though Blyth's name was first separately *published*), comes from the lower hills, while *torqueolus*, while just extending into these, comes chiefly from the central and upper regions.

Again, Col. Tickell remarks:—

"Nowhere does it climb so high as the black-throated species, *torqueolus*, 6,000 feet being the limit of its range in the summer season. In the cold weather I have come across it nearly at the bottom of the valleys."

Except that they keep lower down, and in more numerous coveys, their habits are precisely like those of the common species (*torqueolus*), as are their call notes, flight and food.

In his account of the birds procured during the expedition to the Daphla Hills, Major Godwin-Austen tells us that this was the only species of *Arboricola* obtained. "It was," he says, "very common at 4,000 feet and upwards at our camp in the forest under Torúpútú Peak, and the Daphla guides snared several. The Daphlas, like the other hill tribes, are clever at this art, and the mode of capturing Pheasants and Partridges is simple and worth describing. As it is the habit of these birds to get down low at night into the warmer ravines, and feed upwards along the crests of the spurs, they stop the progress of the covey by a zig-zag barrier about two to three feet high, made up of twigs and short pieces of bamboo stuck into the ground, which is rapidly formed and extended a short distance down the hill on either side. A narrow opening is left here and there, generally at the re-entering angles, and in this the noose is set, just above two cross sticks and in the same plane, at exactly the height of the bird's breast. The noose string is made of a thin strip peeled off the outside of a bamboo, and tied to the end of a pliant stick, drawn down like a spring, and hitched into a saw nick in a bamboo peg, into which the flat form of the string forming the noose fits close and accurately. All the materials grow on the spot, and in a few hours hundreds of barriers and snares can be made and set. The birds are often caught alive by the legs."

Of the Tenasserim race, which is apparently far tamer than the Himalayan one, Davison remarks in our "Birds of Tenasserim":—

"This species is very abundant about the higher slopes of Mooleyit, keeping to the forest in small coveys of ten or twelve.

---

* I presume in summer, but even at that season I have not seen it so high.—A. O. H.

When flushed by a dog or otherwise, they almost always fly up and perch on the surrounding trees, where they squat and commence calling softly to each other. I have shot three or four when thus perched before the others have attempted to move, and I have had them perch within a few feet of me, and keep staring at me, whistling softly all the time. Their ordinary call is a series of double whistles, commencing very soft and slow, but gradually becoming more and more rapid, and rising higher and higher, till, at last, the bird has to stop. As soon as one stops, another immediately takes up the call. The call is very easily imitated, and, after a covey has been dispersed, it is not difficult to attract them by imitating the call. I have done so more than once with complete success. The birds chiefly call in the early morning and evening, remaining quiet, as a rule, during the day.

"They feed on insects, small land shells, fallen berries, and various seeds, and are very fond of scratching about among the dead leaves."

Blyth, speaking apparently of this species, seems to doubt their habitually keeping in coveys; and though all our experience in the Himalayas, and Davison's in Tenasserim, is opposed to his views, I think it right to reproduce his remarks:—

"Captain Beavan does not mention the season at which he saw *Arboricola* in coveys. I saw them rise solitarily in the Tenasserim Provinces during the height of the cold season, but in places where it was hopeless to think of knocking one over, or of picking it up if brought down, on steep bamboo-clad hill-sides, with a few exogenous trees sprinkled everywhere—localities where *Pitta cyanea* showed occasionally, easily recognizable by its colouring, even at a sudden momentary glance."

LITTLE IS known about the nidification of this species. To Mr. Mandelli I am indebted, however, for one of its eggs. He found a nest on the 4th July, at Pattabong, below Darjeeling, at an elevation of about 4,000 feet, containing four fresh eggs. The nest is described as having been a heap of dry leaves placed on the ground. The eggs closely resembles those of *Arboricola atrogularis*. It is a broad oval in shape, pointed towards the small end; in colour a sullied white, with a few very minute grey specks dotted about on it; the shell rather fine and smooth, but with very little perceptible gloss. It measures 1·5 inches in length by 1·2 inches in width.

THE TENASSERIM race is distinctly and constantly larger than the Himalayan one; the legs and feet appear to be always much paler, a pinky and not a bright red; and, lastly, they almost

universally want* the black line (so strongly marked in the Himalayan birds) dividing the rufous at the base of the throat from the grey of the breast.

I shall, therefore, give the dimensions of the two races separately :—

Himalayan Birds (nine specimens measured) :—

Males.—Length, 10·0 to 11·0 ; expanse, 16·0 to 17·5 ; wing 5·12 to 5·37 ; tail from vent, 2·0 to 2·25 ; tarsus, 1·0 to 1·55 ; bill from gape, 0·87 to 0·93 ; weight, 7 to 10·5 ozs.

Females.—Length, 9·0 to 10·5 ; expanse, 15·5 to 17·0 ; wing, 4·9 to 5·2 ; tail from vent, 2·0 to 2·2 ; tarsus, 1·35 to 1·45 ; bill from gape, 0·82 to 0·90 ; weight, 7 to 10 ozs.

Legs and feet red, at times intense red ; bill black ; irides brown ; orbital skin and gape fleshy pink to bright red.

Tenasserim Birds (twenty-five specimens measured) :—

Males.—Length, 10·75 to 11·25 ; expanse, 18·4 to 19·5 ; tail from vent, 2·25 to 2·75 ; wing, 5·65 to 6·0 ; tarsus, 1·6 to 1·8 ; bill from gape, 0·95 to 1·1 ; weight, 10·0 to 12·0 ozs.

Females.—Length, 10·0 to 10·5 ; expanse, 16·6 to 18·5 ; tail from vent, 2·0 to 2·3 ; wing, 5·3 to 5·6 ; tarsus, 1·52 to 1·75 ; bill from gape, 0·9 to 1·0 ; weight, 8·0 to 10·0 ozs.

Legs and feet pale pinky red ; bill horny black ; irides deep brown ; orbital skin bright red.

All these measurements, &c., were recorded from freshly killed birds. There appears to be no difference in the plumage of the two sexes in either race.

THE PLATE is fairly satisfactory, but the legs and feet of the birds in the foreground are not sufficiently red for Himalayan birds. The bird peering through the grass represents the Tenasserim race, wanting the black throat line.

---

* In this respect agreeing with the Aracan Hill Partridge *(A. intermedius)*, which, indeed, it closely resembles ; but the Aracan bird is decidedly smaller, has one nearly unbroken black patch covering more or less of the throat (instead of a number of small round black spots), and is, on the breast and generally, rather paler coloured. The Tenasserim form is quite as distinct as that from Aracan. Those who consider it specifically distinct must call it *A. tickelli*, after its discoverer. I personally should be inclined to suppress *intermedius*.

ARBORICOLA ATROGULARIS.

THE BLACK-THROATED HILL PARTRIDGE.

—o—

Arboricola atrogularis, *Blyth.*

—o—

Vernacular Names.—[Peura, *Sylhet;* Dúboy, Dubore, *E. Assam;* San-batai, *Chittagong*]

—o—

FROM Sadiya, our most easterly station in Assam (where it is very common), this species seems to extend throughout the low hills and dense forests on the southern banks of the Brahmaputra as far as the western slopes of the Gáro Hills. Thence it occurs in suitable localities in Cachar, Sylhet, Tipperah and Hill Tipperah, and, Mr. Fasson tells me, in Chittagong also. From all the localities specified, except the last, I have received specimens.

Godwin-Austen obtained it in the Tura Range of the Gáros. But we have no knowledge as yet of its occurrence in the Khási or Nága Hills.

It has never been recorded from any locality north or west of the Brahmaputra and Megna, nor does it, I believe, extend to Aracan, though Blyth, who originally considered *intermedius* the female of this species, under this misapprehension stated (J. A. S. B., 1849, p. 819) that he had seen dozens thence.

Dr. Anderson procured it in the Kakhyen Hills, east of Bhamo, and it may very probably occur in the upper portions of Independent Burma contiguous to our Assam frontiers; but we know nothing of this region, and as yet this species has not been observed anywhere outside our limits except in these Kakhyen Hills.

I HAVE never seen this species wild. My friend Mr. Cripps writes to me:—" This species is common in Sylhet, where they are found on all the hillocky ground that is covered with dense forest. They are very fond of feeding about the banks of the small rivulets that meander among the hillocks which are scattered about the district. They feed on insects, for which

they scratch amongst the decaying leaves that carpet the ground, seeds and berries of various kinds, and on young shoots.

"Though greatly affecting dense forest, these birds are also partial to bamboo jungle.

"When flushed, they rise with a loud whirr of the wings and a rather harsh whistled cry of alarm. Occasionally a party of five or six may be observed, but generally single birds only are seen; possibly owing to their dislike to showing themselves, leading to ones only flushing the one particular bird one stumbles on, even though, really, a covey may be present, concealed all round.

"Their call, which is often heard, especially towards dusk, is a rolling whistle, *whew*, *whew*, repeated many times, and winding up with a sharper and more quickly uttered *whew*. The sound is very easily imitated, and the birds are easily enticed to approach one by the imitation, and this is the way in which natives usually secure them.

"From the nature of the country they affect and their predilection for concealment, no sport, in the ordinary sense of the word, can be obtained with this species; it is tedious work getting even a brace or two, but when after other birds, a chance shot can be obtained now and then. They prefer running to flying, but when flushed, fly swiftly and easily.

"This species certainly perches at times, for I have seen one fly down from a small tree."

Mr. Fasson writes:—"The Black-throated Hill Partridge is rather common throughout the low hill ranges bordering the Chittagong district along the Hill Tracts Frontier. It frequents principally the sloping banks of hill streams amongst bamboo jungle; also the scrub jungle on the hills, and sun-grass patches. It keeps always inside the jungle, is very difficult to put up, running persistently in preference to rising, and only taking short flghts when at last forced to fly. Mr. Martin says he has seen a very young brood on the 2nd May, and he therefore believes that the birds breed in April."

FOR MY ONLY record of the nidification of this species I am also indebted to Mr. Cripps. He says: "The Black-throated Hill Partridge is the only one that I have seen in Sylhet, and here it is a permanent resident and breeds.

"On the 15th April 1876, I secured a nest of this bird in Sylhet containing two perfectly fresh eggs; the parent bird I missed as it flew off the nest, but am certain of the species. Again, on the 18th May of that year, I secured four hard-set eggs from a nest, shooting the female. Both nests were placed at the foot of large trees which stood on the tops of *teelahs*, or hillocks; a few scanty bushes grew about under the trees, but the whole

place looked very dark and gloomy. The nests were mere linings of leaves and twigs, which had been placed in slight depressions, apparently hollowed out by the birds. The *teelahs* were about 150 to 200 feet in height."

The two nests of this species received from Mr. Cripps contained eggs of precisely the same type. They are all broad ovals, a good deal pointed towards the small end, and when fresh are apparently pure white, but as incubation proceeds acquire brownish or yellowish brown stains. The shell is very fine and smooth, shewing very few pores, and the fresh egg appears to have a fair amount of gloss.

Six eggs vary from 1·33 to 1·43 in length, and in breadth from 1·1 to 1·13.

WE HAVE very few measurements of this species; and, though the females appear somewhat smaller than the males, it is useless (having measured only four birds) to separate the dimensions. Length, 10 to 11; expanse, 16·0 to 18·7; wing, 5·0 to 5·9; tail from vent, 2·15 to 2·5; tarsus, 1·5 to 1·7; bill from gape, 0·85 to 0·97; weight, 7 to 11 ozs.

Bill blackish brown to black; irides deep brown; large orbital space and gular skin, which is thinly feathered, vermilion; legs and feet orange red.

The plumage of both sexes is similar.

THE PLATE is fair, but the feet should have been orange and not coral red; the bare eye-space is too small, and the brown lunules on the breast are purely efforts of the artist's imagination; the breasts are uniform slatey grey. In some birds the black tippings to the feathers of the crown and occiput are so closely set that these parts are almost black; in others the olive of the basal portions of the feathers greatly predominates. Birds from Tipperah, Cachar, and Sylhet seem to be all somewhat paler and lighter coloured everywhere than those from Sadiya.

$\frac{1}{2}$

ARBORICOLA MANDELLII.

THE BHUTAN HILL PARTRIDGE.

Arboricola mandellii, *Hume.*

Vernacular Names.—[?]

SO far as we know, this lovely species is confined to the low hills of Bhútan and the Dúars which skirt their bases.

NOTHING absolutely is known of its habits, food or note, though we may conjecture that all these are very similar to those of its congeners. Apparently it frequents dense damp jungles. About a dozen specimens only have as yet been obtained, and all by Mr. Mandelli's hunters in the Bhútan Dúars.

NOTHING is known of its nidification.

THE FOLLOWING are the dimensions (taken from the dry skin) of a *presumed* male :—

Length, 8·5 ; wing, 5·0 ; tarsus, 1·5 ; mid toe and claw, 1·75 ; bill from gape, 0·9 ; bill at front, 0·65 ; height at front, 0·3 ; tail from vent, 1·5.

The sexes do not differ materially, Mr. Mandelli says, though, the females are rather smaller and less brightly coloured ; at the same time, I believe that none of Mr. Mandelli's specimens were sexed by dissection.

THE PLATE, though a pretty picture, is by no means correct in colour. The hind head should be much browner, contrasting with the forehead ; from the lores under the eye should be a strongly marked black line ; below this, from the base of the lower mandible, a short dull white mandibular stripe ; the red of the breast should be a rather more maroon chestnut, contrasting strongly with that of the throat, which should be rather more rusty and ferruginous. The lower parts should not be drab, but dingy slatey grey, with a faint brownish shade.

The ground colour of the wings, back and rump should be olive ; the feathers, just above the shoulder of the wing, olive, with a slatey blue tinge.

The following is a full description of the type:—

Lores, forehead, sinciput a rich deep brownish chestnut red a faint, very narrow yellowish streak under the anterior portion of the lores; crown, occiput and nape a rich deep rufescent olive brown; a broad grey supercilium, continued backwards over the ear-coverts and partly round the nape; chin, throat, cheeks, ear-coverts, sides of neck and the basal portion of the back of the neck, except exactly in the centre, a very rich bright ferruginous, spotted everywhere, except on the chin and throat, with velvet black, a band of which clearly defines the ferruginous across the base of the throat. Immediately above this black band, in the centre of the base of the neck in front, is a conspicuous pure white patch, about 0·8 long and 0·35 to 0·4 deep. Below the black band, the breast and sides of the breast are rich slightly ferruginous maroon. I should mention that on either side of the upper portion of the throat a very narrow mandibular white stripe, about 0·6 long, runs down from the base of the lower mandible, and that above this a black line, beginning under the posterior portion of the lores, runs under the eye; the abdomen and rest of lower parts pale slatey grey, rather sullied, and in some lights slightly brownish, and many of the feathers with a small irregular central white spot near the tip; the flank feathers, (where the white spots are largest and most conspicuous), tinged or margined with rusty or ferruginous chestnut; the vent and lower tail-coverts strongly tinged with dull olive, the coverts, moreover, having the white spot nearer the tips and more or less expanded into a bar, and being here and there a little tinged with rusty; wing lining about the carpal joint a rich hair brown; the rest a pale grey brown (much the colour of the lower surface of the quills), a little tipped with white.

Upper back and interscapulary region plain olive, a little slatey in some lights towards the bases of the feathers; some of the feathers *very* narrowly and inconspicuously fringed with black; lower back, rump and upper tail-coverts a rather browner and brighter olive, some of the feathers very narrowly fringed with black, and most of them with conspicuous, hastate, subterminal, velvet black spots; coverts and scapulars and tips of tertiaries similar (the black spot varying in shape from a sort of lunule on the scapulars to a linear lanceolate dash on some of the coverts), but the feathers more or less tinged towards the margins with deep ferruginous; the primaries plain uniform hair brown; secondaries similar, but freckled and mottled, more or less, on the outer webs and at the tips with ferruginous.

ARBORICOLA INTERMEDIA.

THE ARACAN HILL PARTRIDGE.

—o—

Arboricola intermedius, *Blyth.*

—o—

Vernacular Names.—[Toun-hka (Burmese), *Pegu.*]

—o—

THE area of distribution of this species is as yet quite undefined. It has been sent from various places in the Aracan Hills, from as low down as opposite Sandoway to as high up as above the town of Aracan itself. It extends quite to the foot of the hills on their eastern side, where a specimen was shot by Captain Swetenham near the 24th mile of the military road leading across the mountains from Prome to Tonghoo (*fide* Oates.)

Again, Godwin-Austen says he obtained it in N. Cachar and in the Nága Hills.

Nothing further is known of its distribution within our limits, but outside these I have specimens from the neighbourhood of Bhamo, in Independent Burma.

I HAVE never seen this bird alive, and nothing, so far as I know, has ever been recorded about its habits, food or nidification.

SKINS MEASURE:—

Length, 10·0 to 11·0; wing, 5·15 to 5·7; tail from vent, 2·2 to 2·4; tarsus, 1·5; bill from gape, 0·8 to 0·9.

We *know* nothing of the colours of the soft parts, but the bill seems to be black and the legs red. There appears to be no difference in the plumage of the sexes.

THE PLATE is fair, but the crown is olive, not black, as the peculiar shading might lead the unwary to suppose. There are no brown crescentic markings on the breast (also, I suppose, an eccentric form of shading), and the back should be a little more olivaceous. The size of the black patch on the throat varies much in different specimens.

As already noticed, it is really only by this black patch that the present species is distinguished from the Tenasserim race of the Rufous-throated Hill Partridge. Now, in both this race and the Himalayan one, specimens occur in which the black spots on the throat are large and almost coalesce in some places ; and in our present species, the black throat patch is at times small and dotted with pale ferruginous, showing that it is nothing but coalesced spots, and I am inclined to think that those who do not separate the Tenasserim race should equally refuse to separate the present one.

F Walter Chromo Lith. 18 Hatton Garden London

½

ARBORICOLA BRUNNEIPECTUS.

THE BROWN-BREASTED HILL PARTRIDGE.

Arboricola brunneopectus, *Tickell.*

Vernacular Names.—[Toun-hka (Burmese), *Pegu;*]

THIS species is found in the Eastern Hills of Tenasserim, from, at any rate, as far south as the latitude of Tavoy to our northern boundary north of Tonghoo. It is also abundant along the eastern slopes of the Pegu Hills, which bound the valley of the Sitang on the west.

Elsewhere it is not known to occur within our limits, though it *may* extend along the hills further south than I have above indicated.

Wardlaw Ramsay met with it in the Karenee Hills, and it doubtless (though this has yet to be *ascertained)* extends into the southern portions of Independent Burma, the Shan States, and the north-western portions, at any rate, of Siam.

I KNOW nothing of this species personally. One of my collectors, Mr. Darling, who procured me a considerable series of specimens, notes as follows :—

"There was not a day at Thoungyah that I did not see* two or three coveys of this Partridge, counting each from 3 to 10 or even more birds ; but owing to their shyness and dead-leaf colour, they are very difficult to secure. They feed amongst the dead leaves on seeds, insects, and small shells, and are very restless, giving a scratch here, a short run and another scratch there, and so on, uttering a soft cooing whistle all the time. When disturbed by a man, they always disappeared into the dense undergrowths, but a dog always sent them flying into some small tree, whence they would at once begin calling to one another, whistling first low and soft, and going up higher and shriller, till the call was taken up by another bird. I often got quite close to them, but the instant I was seen, away they ran helter-skelter in all directions, and

* This was in September, October and November.—A. O. H.

I could only now and then catch a glimpse of the little fellows scuttling through the bushes. Of course they are entirely a forest bird, though they may be seen just at the outskirts of this."

Colonel Tickell, the original discoverer of the species, tells us that "they are not to be seen in the middle of the day, as they then retire to the depths of the valleys, where, from the heat and stagnation of the air, it is impossible to follow them. But early of a morning, and until the heavy dews of those regions are fairly dried off the underwood, they come out pretty freely into opener spots, running along the single narrow footpath which skirts the crests of those steep hills, and scratching amongst the fallen leaves and elephant's droppings for the insects which congregate in such spots. When approached they seldom take wing, but run nimbly off, stopping occasionally under the bushes and calling to each other in a low piping tone. If the spot be too open, however, they flush and fly rapidly off to the next covert on the same side of the hill, whence, it is needless to say, they cannot be flushed again, even if their retreat be accessible. When they have gained the shelter of a bush it is almost impossible to make them leave it, and I have sometimes watched them squatted thus within a yard or two of the muzzle of my gun. At such times, or when creeping stealthily about under covert, they occasionally emit a low 'pur-r-r-r,' not unlike the call of the Button Quail. I found *A. brunneopectus* usually in pairs (time, February)."

Davison says:—

"I have only met with this species on two occasions, and then in pairs, in very dense jungle at the bottom of dark ravines. I did not hear their note, and can say nothing of their habits, except that they did not seem to be shy, as I had got within a few yards of them before I saw them move, and then they ran up the path but did not rise."

Mr. Oates remarks:—

"This bird and the next *(A. chloropus)* are equally common in densely-wooded ravines and nallas of the evergreen forests on the eastern slopes of the Pegu Hills. I have never met with the two in the same valley, each species appearing to occupy one stream to the exclusion of the other; they may occasionally straggle to the western slopes, but this must be the case rarely, as I never came across them; in fact, the jungle is not adapted to them, being spare and dry. Westward of these hills, the range of this and the next species *(chloropus)* does not, I think, extend. Their food appears to consist of hard seeds, but in one instance I found a beetle in the stomach of one of them. They breed, I judge, in May. I never heard a call in the forest which I could identify as proceeding from this bird or the next. I believe

both to be particularly silent. I have occasionally seen them in the bed of a nalla, where they were probably either bathing or dusting themselves."

We may conclude that they are denizens of the dense evergreen forests, from almost sea level to an elevation of nearly 4,500 feet; that, like most of the other Hill Partridges, they go about in pairs in the spring, and in coveys in autumn, and perhaps the early part of the colder season; and that, generally, their habits, &c., are much those of their familiar congener, the Common Hill Partridge.

NOTHING is yet on record about their nidification.

THE FOLLOWING are the dimensions, &c., recorded from a large series; the plumage of the two sexes is identical, but the males are rather larger than their spouses:—

Males.—Length, 10·6 to 11·6; expanse, 17·5 to 19·5; wing, 5·2 to 6·0; tail from vent, 2·1 to 2·6; tarsus, 1·5 to 1·8; bill from gape, 1·0 to 1·1; weight, 9 to 13 ozs.

Females.—Length, 10·0 to 10·8; expanse, 17·0 to 18·4; wing, 5·15 to 5·8; tail from vent, 2·2 to 2·5; tarsus, 1·5 to 1·7; bill from gape, 0·98 to 1·1; weight, 8 to 12 ozs.

Bill black; irides deep brown; eyelids, orbital patch, and gular skin (thinly covered with feathers) bright red, but varying in shade, and especially the two former often duller. The legs and feet vary much in colour. Old adults always have them, I believe, red, varying from dull coral to a pale bright red, but in younger birds they are always pinker, in some a dirty salmon pink, and, Mr. Oates says, though we have seen none such, even orange.

THE PLATE is really very good; only, in 19 specimens out of 20, the breast is browner than in the specimen figured.

The specimens vary very greatly in several respects. In the first place, in some birds, the black spots on the head are very small, leaving the prevailing tint olive brown; in others they are so large, becoming, especially on the occiput, broad tippings, as to leave only a few spots of the brown peeping through here and there; in some the barrings of the back are very broad and conspicuous, an eighth of an inch broad perhaps; in others they are not above a twentieth of an inch wide; in some the breast is only slightly tinged with rusty; in others very strongly so, and in these latter specimens the whole bird, above and below, is somewhat more rufescent.

In some specimens the red throat skin shows through a great deal more than in others, or than is shown in the plate.

$\frac{1}{2}$

ARBORICOLA CHLOROPUS.

THE GREEN-LEGGED WOOD PARTRIDGE.

Arboricola chloropus, *Tickell.*

Vernacular Names.—[Toun-hka (Burmese), *Pegu.*]

THE distribution of the Green-legged Hill Partridge is very similar to that of the Brown-breasted species, but its range is lower. It occurs along the skirts of the Eastern Tenasserim Hills, from at least as far south as the latitude of Tavoy (and it very probably extends further south still) to north of Tonghoo, and it equally occurs along the eastern slopes of the Pegu Yoma. In Tenasserim, stragglers occur far from the hills. Thus, Capt. Bingham recently shot a pair close to the Circuit House at Moulmein.

I am not aware that it has as yet been recorded from any locality outside our limits, but it is pretty certain to extend to North-Western Siam and the Shan States, and probably to suitable localities in Independent Burma.

THROUGHOUT THE Tenasserim Hills, while *brunneopectus* is pretty well restricted to the more dense *hill* forests, the present species is nearly confined to the forests and thin tree jungles of the *plains* that skirt the bases of these hills, and the low mounds or hillocks that are dotted about these.

This species was first obtained in the Amherst district of the Tenasserim Provinces. Colonel Tickell, its discoverer, remarked in regard to it:—

"It appears tolerably numerous, but, as far as my observations go, is entirely confined to the forests on the banks of the Zummee River. Unlike its known congeners, it avoids mountains, and inhabits low, though not humid, jungles, where the ground merely undulates or rises into hillocks.

"Like the rest of its tribe, it is difficult to flush, and runs with great rapidity, jumping adroitly over obstacles, and diving into impenetrable thickets for security. Early in the mornings these birds come out on the pathway, scratching about amongst the elephant's dung, and turning over the dead leaves, for insects. They do not appear to have any crow or call, though during the

pairing season this may not be the case. The Karens did not even know the bird; but this is no proof of its rarity, for these people pay no attention to the living products of their forests.

"The sexes are precisely similar in plumage and size; the flesh rather dry and tasteless."

In our "Birds of Tenasserim," Mr. Davison noted that "this species is most abundant in thin tree jungle, but is also found in thick forest. It is usually met with in pairs, but sometimes in small parties, gliding about on the ground amongst the dense brushwood, and scratching among the dead leaves, hunting for insects and seeds. Its note is a low soft double whistle, which is chiefly heard in the morning and evening. Without dogs they are very hard to procure, as they will not rise, but run only a short distance, and then squat close under some cover: before a dog they rise at once, flying some distance and then dropping to the ground, not perching as *rufogularis* does. Like all the other *Arboricolas*, these come down about midday or a little earlier to some forest streamlet to drink."

There is nothing else on record about this species, nor is anything, so far as I am aware, as yet known about its nidification.

THE FOLLOWING are dimensions, &c., of six males and four females recorded in the flesh:—

Males.—Length, 11·4 to 12·0; expanse, 19·6 to 21·25; tail from vent, 2·9 to 3·5; wing, 6·05 to 6·6; tarsus, 1·7 to 1·79; bill from gape, 0·82 to 0.95; weight, 9 to 12 ozs.

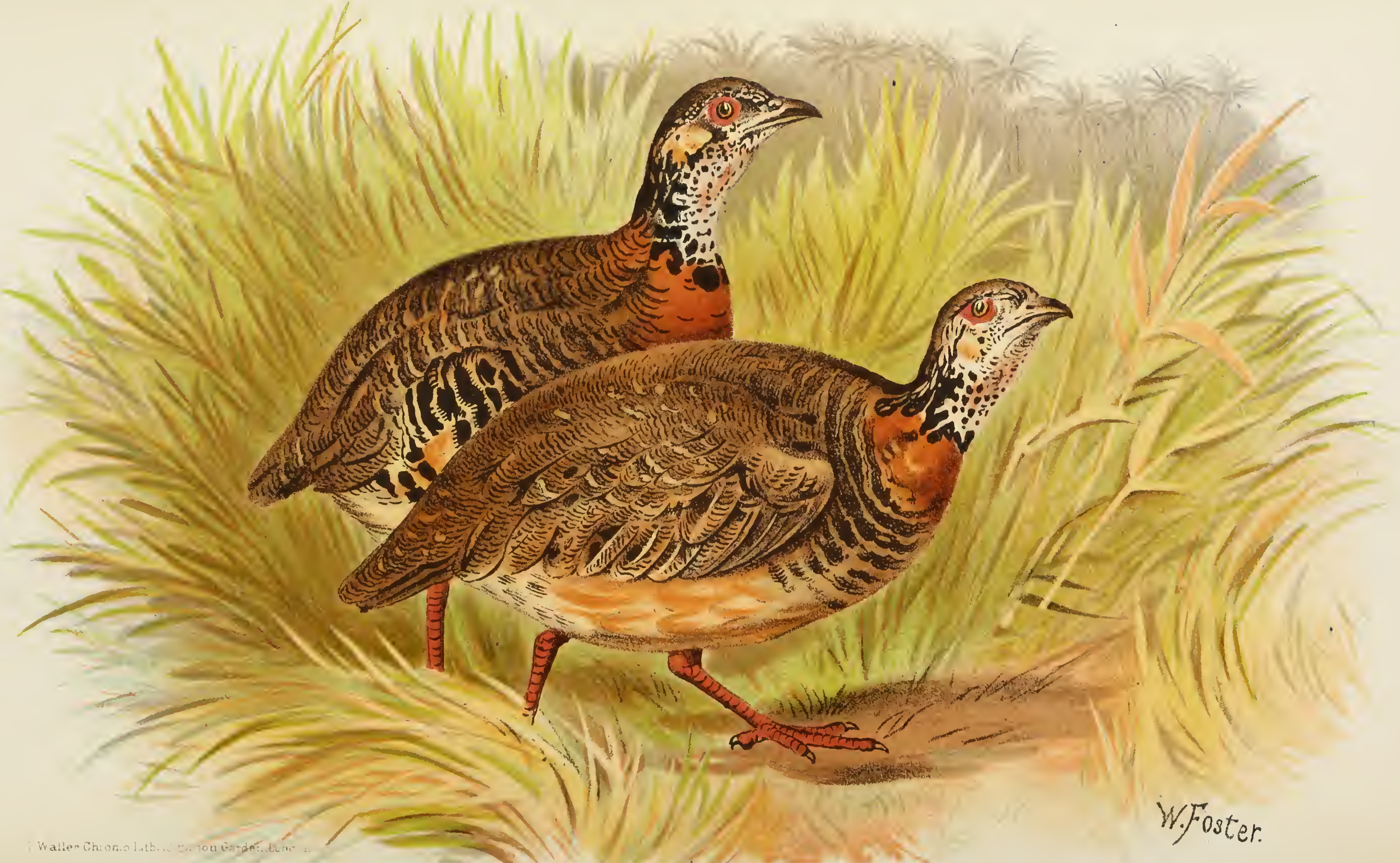
Females.—Length, 10·8 to 11·6; expanse, 17·5 to 18·7; tail, 2·6 to 2·95; wing, 5·75 to 6·2; tarsus, 1·62; bill from gape, 0·8 to 0·9; weight, 8 to 10 ozs.

Legs and feet pale green; claws paler and yellower; bill greenish horny; region of nostrils and base of lower mandible reddish horny; cere dark greenish plumbeous; orbital skin dark brownish pink to livid rufous; irides deep brown.

The plumage of the sexes is alike.

THE PLATE is unsatisfactory, because the colours are not right. The whole upper parts should be a pure olive brown, barred with black, the crown only being immaculate. The patch at the sides of the neck and on the sides should be a pure pale *ferruginous*, not a bit the *pinky red* of the plate, nor is there any trace of this latter colour anywhere in the *bird*, although the whole plumage is more or less tinged with it in the *plate.*

Almost all these *Arboricola* plates are disfigured by the failure to seize the *exact* shades of colour that the birds exhibit. In the present case, if the legs and feet were not in an impossible position, and the tints had been slightly altered, the figure on the right would have been really good.



Waller Chromo Lith. [illegible] Garden, Lond.

½

PERDIX CHARLTONI

THE MALAYAN WOOD PARTRIDGE.

---o---

Arboricola charltoni, *Eyton.*

---o---

Vernacular Names.—[?].

---o---

THIS species is said to have been sent from the Southern Tenasserim Hills, but I very much doubt whether it really occurs within our limits.

It occurs, however, in the hilly portions of the Malay Peninsula, from the extreme south at Johor to the latitude of Penang, and it has also been sent from Bankok in Siam, though whether procured in that immediate neighbourhood, or in the Siamese States of the Malay Peninsula, is uncertain.

I have also seen a specimen from Sumatra, but these birds are commonly captured by the Malays and taken about in cages, and, in default of specific information, the mere transmission of a skin from Sumatra is no proof that the bird occurs there wild.

Nothing further is known of its distribution.

OF THE HABITS of this species, all we know is derived from the statements of natives. It is said to be exclusively a bird of the hill forests, descending, however, quite to their bases—to be very shy and affect concealment greatly—to keep in small parties, feeding upon the ground, amongst the dead leaves, on insects, seeds and berries.

The note is a distinct double whistle.

WE HAVE measured no specimens in the flesh. Skins measure:—

Length, 10 to 11; wing, 6·3 to 6·9; tarsus, 1·6 to 1·8; bill from gape, 0·9 to 1·1.

The bill is apparently black; its basal portion and orbital skin red; the legs and feet orange or red.

The sexes are said not to differ in plumage.

THE PLATE conveys a tolerable idea of the species, but here, too, the tints have not been accurately caught; the red of the lower throat should be a deep chestnut, and the ground colour of the back and upper parts a pale dull buff.

I subjoin an accurate description of a fine specimen from Johor:—

The lores and forehead are covered with striped feathers, yellowish white in the centres, olive brown at the sides, the olive brown becoming almost black towards the tips of some of the feathers. A long conspicuous superciliary stripe, continued downwards on either side of the back of the neck, white or yellowish white, the feathers more or less broadly margined on one or both webs with dark brown, becoming black towards the terminal portion of the stripes; the whole of the top and back of the head and nape enclosed between these stripes pale olive brown; ear-coverts bright pale rufous buff; from behind the ear-coverts a more or less broken black band descends on either side of the neck and meets in front at the base of the throat; the whole of the chin, cheeks and throat, included within this band, white, each feather tipped with blackish brown or black; the black band is succeeded by a deep chestnut crescentic shaped pectoral band, about an inch and a half deep in front, commencing from near the end of the elongated superciliary stripe; the lower breast below the chestnut pectoral band is pale buff, the feathers closely set with broad blackish bands, which occupy the greater portion of the feather, and which, towards the sides, are more or less freckled over with rufous buff; upper abdomen and sides ferruginous buff, paler towards the centre, brighter on the sides, where the feathers exhibit broad black bars, mostly on one web only; middle of lower abdomen, thighs, vent, and central shorter lower tail-coverts white; lateral and longer tail-coverts buffy with black bars.

The entire back, rump, scapulars, upper tail-coverts, pale dull buff, profusely freckled and mottled all over with fine zig-zag lines, which vary from deep olive brown to almost black; the freckling is so dense that but little of the ground colour remains visible; the tertiaries and the greater portion of the coverts are mottled very similarly to the back, as are also the exterior webs of most of the secondaries, but these latter have a somewhat more ferruginous tinge, and the coverts exhibit larger patches of a pale yellowish buff, and again of unmottled dark brown; the primaries, the inner webs of the secondaries, and the earlier greater coverts of the former, uniform, rather pale hair brown; the tail is hair brown, mottled and freckled with dull ferruginous and blackish brown.

Axillaries and wing-lining, except in the neighbourhood of the carpal joint, pure white; in the neighbourhood of the carpal joint, brown spotted or imperfectly barred with ferruginous red.

Many ornithologists separate the Green-legged and Malayan Wood Partridges from the Hill Partridges in a distinct genus *Peloperdix*, but accepting these as *Arboricolas*, and uniting also *Oreoperdix* of Swinhoe, which seems to be only an *Arboricola*, in which the bareness of the throat, so conspicuous in several of our species (*e.g.*, *brunneopectus*,) is exaggerated, only three or four other species appear to be, as yet, known ; *viz.*, *A. javanica*, from Java and Sumatra, *A. personata* from Java, and *A. crudigularis* from Formosa. Besides this, there is an *A. gingica*, which, as described by Mr. Blyth (*Ibis*, 1870, 174), is something of the type of *A. mandellii*, supposed to come from the Coromandel Coast, but which there are reasons for believing to have been brought from the Philippines.

The genus is essentially Indo-Malayan, and doubtless numerous species remain to be discovered in Siam, the Shan States, Independent Burma, and probably Assam.

The *Arboricolas*, males as well as females, have no spurs ; the Bamboo Partridges (*Bambusicolas*) differ, amongst other things, in that the males are spurred, and, in the case of our Indian species, have very sharp spurs.

F. Walter, Chromo-Lith. 18. Hatton Garden, London

½

BAMBISICOLA FYTCHII.

THE WESTERN BAMBOO PARTRIDGE.

Bambusicola fytchii, *Anderson.*

Vernacular Names.—[Vengte (Kuki)]

THIS species is common about Shillong, in the Khási Hills, and it occurs also in the Gáro, North Cachar and Nága Hills, but it has not as yet been recorded from any other localities within our limits. As, however, it greatly affects concealment, and chiefly haunts dense grass and bamboo jungle, and even at Shillong remained unnoticed until quite recently, it very probably will prove to occur in suitable localities throughout the hill ranges of Upper Burma and Assam south of the Brahmaputra.

Dr. Anderson, the discoverer of this species, first procured it in old rice clearings on the hill sides of Ponsee, in Yunan, at an elevation of 3,000 feet, and Père David says that it must extend to the south-west corner, at any rate, of Sechuen, whence he has seen a live specimen.

Nothing further is at present known of its distribution.

THE BAMBOO Partridge seems to be a shy bird, frequenting dense grass, never seen except at early dawn in the open, and only rarely caught sight of at other times scuttling along some jungle path.

They are said to be difficult to flush, but to fly rapidly for a short distance when roused ; to perch freely on trees, but to feed habitually on the ground on grass seeds, berries and insects. The note, often heard in the spring, is said to be loud and harsh, somewhat fowl-like in its character, and totally distinct from the soft low whistle of the Hill Partridges.

Mr. Damant writes :—

"This bird occurs in the Gáro, North Cachar, and Nága Hills. I have only found it in heavy forest jungle at heights of not less than 2,500 feet ; it is generally found in pairs, and is difficult to

shoot, as it will not rise till hard pressed. It is nowhere very abundant."

Captain Cock remarks :—

"This is a common Partridge in the Khási Hills ; very hard to flush, and, when put up, gets up immediately under one's feet, flies a few yards, and drops suddenly into the long grass again, from which it is almost impossible to get it to rise a second time.

"They are fond of coming out on to open spaces or roads at early dawn, and they roost together in low trees. I once shot four with one barrel, out of a small chir pine, where they had gone to roost. They breed in May and June, but I have not found their eggs."

NOTHING CERTAIN is known of the nidification of this species, which is, however, said to lay on the ground (in a small depression in the ground, thinly lined with grass, under the shelter of, or in the middle of, a dense tuft of grass) in May (near Shillong), and to lay seven eggs, unspotted, of a brownish buff.

Could the eggs found in March by Godwin-Austen at the head of the Jhiri River, North Cachar (J. A. S. B., Pt. II., 1874, p. 174), of "a light brown colour," have belonged to this species ?

THE MALES seem to be larger as a rule than the females, and these latter differ, moreover, as a rule, in wanting spurs and in having the streak running backwards from the eye, dull cinnamon rufous instead of black.

Males.—Length, 14·0 to 14·3 ; expanse, 19·0 to 19·75 ; wing, 6·1 to 6·45 ; tail from vent, 4·62 to 5·13 ; tarsus, 1·75 to 1·93 ; bill from gape, 0·9 to 0·97 ; weight, 10 to 14 ozs.

Females.—Length, 12·6 to 13·5 ; expanse, 18·25 to 19·0 ; wing, 5·62 to 5·8 ; tail from vent, 4·61 ; tarsus, 1·75 ; bill from gape, 0·85 to 0·9 ; weight, 9 to 12 ozs.

These are our own measurements in the flesh ; besides these, there was a bird fully spurred, which Davison avers that he ascertained *certainly* by dissection and verified closely, being puzzled with the spurs, to be a *female*, which measured :—Length, 14·3 ; expanse, 19·75 ; wing, 5·9 ; tail, 4·88 ; tarsus, 2·0 ; bill from gape, 0·9 ; weight, 12 ozs.

Of Anderson's type, a male, he records the following dimensions :—Length, 12·0 ; wing, 5·8 ; tail, 4·2 ; tarsus, 1·58 ; bill from gape, 0·95.

Godwin-Austen gives the following dimensions of a Shillong male :—Length, 14·5 ; wing, 6·25 ; tail, 5·0 ; tarsus, 2·1.

In our specimens, the legs varied in tint and were brown, greenish plumbeous, green, pale glaucous green, and, Godwin-Austen says, "pale grey, with a green tinge."

Spurs whitish horny, claws bluish.

The irides were brown, hazel brown, reddish brown, and, Godwin-Austen says, "dark brown."

The bill in one was, upper mandible and base of lower mandible dark brown; rest of lower mandible whitish; in another brown; in others greenish brown, and, Godwin-Austen says, "pale horny black, paler beneath."

THE PLATE really represents very fairly the particular specimen figured, the only one I then possessed, a male, but this was not a good average specimen. Mostly the males have longer and sharper spurs; generally the bills are brown and the legs more or less greenish. Of course, the females differ in wanting *generally* the spurs, and in having the eye streak pale cinnamon rufous instead of black.

Major Godwin-Austen separated the Shillong bird as *B. hopkinsoni*, but the differences on which he relied are purely individual, and not local.* The fact is, the birds vary *very much*, and unfortunately the bird we have figured turns out to be rather an abnormal specimen.

In some birds *all* the feathers of the sides and flanks have a huge, velvet black, subterminal, more or less heart-shaped spot; in others, these spots are less numerous, smaller, and more of a diamond shape.

The lower back, rump, and upper tail-coverts are in all a more or less dull, pale olivaceous brown, more or less barred, irregularly, with very fine zig-zag lines of a paler colour. In some birds, besides this, many of the feathers of these parts have a conspicuous triangular black spot, often running some distance up the shaft, subterminal, the feather being tipped with buffy white; in others again, there are no traces of these black spots, except on the very longest upper tail-coverts, where they appear greatly reduced in size and do not run up the shafts.

In some specimens, the feathers of the interscapulary region and shorter scapulars exhibit, more or less, white spotting, or short zig-zaggy dull white lines. In other birds there is no trace of this; in some birds again, the sides of the breast are profusely white spotted; in others, as in the specimen figured, there is no trace of this.

In some birds the chin (*vide* Godwin-Austen, I have seen none such myself) is dark brown; in some before me it is very pale; but in the majority it is pale ochraceous, like the lores and throat.

Generally the tail is rufous brown, conspicuously banded with transverse, freckly bars of black and rufescent buff. In one

---

* I first pointed this out, S. F., V., 1877, p. 494. Since then Dr. Anderson has compared the types of both species, and agrees that they are identical. I, too, by Dr. Anderson's kindness, have been able to compare his type with my own large series of Shillong specimens, and am quite certain that the two are identical.

specimen before me, the tail (which no doubt is somewhat worn) is absolutely uniform, without a trace of these barrings. Again, in some, the lower surface of the tail is dull brown ; in others, it is a distinctly ruddy brown.

In some specimens the chestnut and black spots at the ends of the coverts, tertiaries, and longer scapulars, are small and inconspicuous, as in the specimen figured. In others, they are very large, and give the bird quite a different appearance.

Generally, too, some birds are brighter and richer coloured—birds killed in November, for instance; while others killed in August are much duller.

A bird of the year has a number of longitudinal buff shaft stripes on the back of the neck and upper back ; and has similar and broader stripes down the middle of the dark subterminal patches on the tertiaries.

I think the species will be easily recognized by the plate, but it must be borne in mind that, unfortunately, the specimen figured was rather abnormally coloured.

THE BAMBOO Partridges are Indo-Chinese ; three other species only are, I believe, as yet known, though doubtless Northern Siam and Tonquin, and possibly Malayana, will furnish other species. Of these three, one, *B. sonorivox,* is peculiar to the island of Formosa, another, *B. thoracicus,* is found throughout Southern China from Fokien to Sechuen, but does not extend northwards beyond the valley of the Yang-tse-kiang, while the third, *B. hyperythrus,* has only recently been described from Borneo by Mr. Sharpe.

CALOPERDIX ½ OCCULEA

F. Waller Chromo Lith. 18. Hatton Garden. London

THE FERRUGINOUS WOOD PARTRIDGE.

———o———

Caloperdix oculeus, *Temminck.*

———o———

Vernacular Names.—[Burong Trúng (Malay), *Sumatra.*]

———o———

IT is only, according to our experience, in the dense forests of the southernmost portions of Tenasserim that this richly-plumaged species occurs, but a specimen is said to have been obtained as far north as Moulmein.

It extends throughout the Malay Peninsula in suitable localities, and is found in Sumatra, and possibly in Borneo also, though I am not aware that this has been verified of late years.

A DENIZEN of dense and uninhabited forests, where the tracks of wild elephants, buffaloes and the Saladang *(Bos sondaicus ?)* constitute the only pathways, nothing absolutely seems to be known of its habits. My collectors have succeeded in snaring a few specimens, and have ascertained that it feeds on insects, seeds and berries, but they have never even seen it wild, nor have they been able to procure any information about it or its nidification from the Malays.

THE PLUMAGE of the sexes seems to be absolutely identical, but the male carries short stout spurs.

The following are the dimensions and colours of the soft parts of a female :—

Length, 10·75 ; expanse, 17·5 ; tail from vent, 2·25 ; wing, 5·5 ; tarsus, 1·62 ; bill from gape, 0·9 ; weight, 8 ozs.

Legs and feet pale dirty green ; bill black ; irides deep brown.

THE PLATE is extremely good, and, except that the irides are too pale, leaves nothing to be desired.

F Waller Chromo Lith. 18. Hatton Garden London

½

ROLLULUS ROULROUL

THE RED-CRESTED WOOD-QUAIL.

Rollulus roulroul, *Scopoli.*

Vernacular Names.—[See-oul, *Malay Peninsula;* Baniúl, *Sumatra;*]

LIKE the last species, the Red-Crested Wood-Quail is a Malayan form, only just entering our limits in Southern Tenasserim.

Throughout the entire length of the western side of the Malay Peninsula (and probably equally on the eastern side also), Sumatra and Borneo, this species occurs in suitable localities. It has been said to have been found in Java, but this appears to need confirmation.

Into Western Siam it certainly extends.

ESSENTIALLY A forest bird, this species would seem to range from sea level to an elevation of three or four thousand feet. It is a lively bird, flying rapidly when flushed, and although, Quail-like, soon dropping into the undergrowth, with a dog it affords fair sport.

Davison remarks in our "Birds of Tenasserim":—

"This species is always found in small parties of six or eight or more, males and females, keeping to the dense forest, and never venturing into the open, living on berries, seeds, tender shoots and leaves, and insects of various sorts. It does not scratch about nearly so much as the *Arboricolas*, and is much quicker and more lively in its movements, much like a Quail, running hither and thither. They rise well before a dog, but it is hard to flush them without. Their note is a soft, mellow, pleasant whistle, which is chiefly heard in the morning, but which they also utter when calling to each other after they have been separated. Like that of *A. rufogularis*, their note is very easily imitated, and they will answer the call readily."

Again, Col. Tickell says:—

"These singular birds ramble about the hill sides, at an elevation of about 3,000 feet to 4,000 feet, in bevies or parties of six or eight to a dozen. They are exceedingly swift of foot, never leave the jungle, and rarely take to wing. I once came across

a number of them feeding in the pathway on one of the high ranges near Weytamaryng, on the Siam frontier, but they darted into the bush like so many mice, and I could not obtain a second glimpse of them. With other rasorial birds of the kind, they are easily snared, though unattainable by a gun,* and the Malays bring numbers of them for sale to Singapore."

NOTHING IS as yet known, I believe, of the nidification of the Red-Crested Wood-Quail.

THE FOLLOWING are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·75 to 11·0; expanse, 17·25 to 17·5; tail from vent, 2·5 to 2·75; wing, 5·4 to 5·62; tarsus, 1·6 to 1·65; bill from gape, 0·85 to 0·9; weight, 8·0 to 10·0 ozs.

Females.—Length, 9·5 to 10·62; expanse, 16·25 to 17·12; tail from vent, 2·5 to 2·62; wing, 5·0 to 5·62; tarsus, 1·65 to 1·7; bill from gape, 0·62 to 0·8; weight, 8 ozs.

The male has the legs and feet and basal portion of bill scarlet red; claws horny; rest of bill black; irides slaty grey; facial skin and edges of eyelids scarlet.

The female has the legs and feet, bright red; bill black; irides deep brown; facial skin and eyelids bright red.

Males and females are alike spurless.

THE PLATE is extremely good, but the green of the plumage of the female should be a purer, darker, grass green.

ONLY ONE other species of this genus, *Rollulus niger*, from the Malay Peninsula, Sumatra and Borneo, is known, and even this is generally separated in a sub-genus of its own *(Melanoperdix)*.

---

* Like many others, I might say the great majority, of our game birds, they are easy enough to shoot if you work with dogs.—A. O. H.

$\frac{1}{2}$

MALACORTYX SUPERCILIARIS.

THE MOUNTAIN QUAIL.

Ophrysia superciliosa, *J. E. Gray.*

Vernacular Names.—[?]

THIS is probably the least known of all our Indian Game Birds.

It is as yet only known to occur occasionally, and during the cold season, in the neighbourhood of Mussooree, and again in the neighbourhood of Naini Tal.

But it is a bird of singularly retiring habits, can scarcely be induced to show itself unless pressed by a dog, and occurs only at a season when our hill stations are nearly deserted, and I dare say that it will prove to be a migrant (possibly only in the colder winters) to the lower and outer ranges of the Himalayas, at elevations of from five to eight thousand feet, everywhere eastwards of Mussooree.

Where it comes from, it is impossible to say, but I should conjecture from the better-wooded, south-eastern portions of Chinese Tibet.

The first known specimens of this species were figured in 1846 in the first part of the Earl of Derby's "Knowsley Menagerie," their origin being then unknown.

In November 1865, poor Kenneth Mackinnon, then a boy, shot a pair in a hollow between Budraj and Benog, behind Mussooree (elevation about 6,000 feet). One of these was given to Colonel L'Estrange, and Blyth exhibited it at the Zoological Society on the 8th May 1867.

In November 1867, a party, or perhaps several parties, established themselves at Jerepani, near Captain Hutton's house (elevation 5,500 feet), and remained until the summer of 1868. Five specimens were procured.

In December 1876, Major G. Carwithen, 25th Regiment, K. O. B., shot a specimen on the eastern slopes of Sher-ka-danda (elevation 7,000 feet), close to Naini Tal. I know of no other specimens having been obtained.

Of these ten specimens, two are in the Derby, one in the British, five in my own Museum; one is in the collection of the

late Colonel Tytler, and one, the second shot by Kenneth Mackinnon, cannot be traced.

KENNETH MACKINNON wrote to me :—" Blyth's account is quite wrong. I shot the bird which Colonel L'Estrange obtained in November 1865. It was shot, together with a second, also a male, out of a covey of eight or ten, and not 'flying overhead,' but in grass jungle on the southern face of Budraj. I recollect that the morning was a particularly fine one, and the weather the reverse of 'unusually cold.'

" I noticed that nearly half the birds, probably females, were brown, rather darker than the ordinary game brown. They were very difficult to flush, and, but for the dogs, we could not have got them up. After being flushed they collected again at some distance with a shrill whistling, quite unlike that of any of our other birds. Their flight was slow and heavy, and I should never have supposed them capable of migrating far. I attached neither importance nor value to them, or I might have shot more, but they were very small birds, and involved an immense deal of bother in shooting (and proved, I may add, poor eating), and so, having once ascertained what they were like, I troubled myself no further about them.

" I saw these birds occasionally after this, and have frequently heard their whistle when out shooting near Mussooree. They are not confined to the spot where I shot that brace. I have seen and heard them in other similar places, at about the same elevation, in the neighbourhood of Mussooree, but to the best of my recollection only during the winter ; but of this latter I am not sure."

Captain Hutton wrote to me two or three times about these birds. First, sending a pair of old birds on the 1st December :—

" There were about a dozen of them feeding amongst the high jungle grass near my house, and one of the boys knocked over three, one of which was destroyed."

Again, on the 20th December, sending a young bird :—"There were only five or six birds in this covey, and all young apparently. This one was shot with a pistol, as we find the gun of little use, the birds refusing to take wing, and only running among the long high grass when pressed, and allowing themselves to be nearly trodden upon before they will move. This was shot on the 18th December at Jerepani, elevation 5,500 feet. During the forenoon they wander up to feed amongst the long grass, to which they obstinately cling, feeding on the fallen seeds, and their presence being made known by their short Quail-like note. They will not come out into the open ground, and in the afternoon they descend into sheltered hollows amongst the grass and brush-wood."

Lastly, in August 1870, sending another specimen :—

" This is a male, not quite mature, shot at Jerepani in June, after which they disappeared.

"Two or three coveys came in November 1867, and some remained as late as June 1868, when this present specimen was shot. They have not been seen since, and I never saw them before.

"They frequented tall seed-grass, on which they fed, were very difficult to put up, and dropped again very quickly, and all ours were, I think, shot on the ground. They thread in and out between the grass stalks very quickly, and once there, it is impossible to get them out without dogs. They utter a low chirping and pleasant cry to each other when feeding, but a much louder note, a sort of whistle, when alarmed and flushed."

Major Carwithen writes:—

"I shot this specimen" (a female) "on the eastern slopes of Sher-ka-danda in December 1876. I was beating the slopes for Cheer Pheasant, when my dog put up a brace of these birds. One I killed, the other I only feathered, but it appeared to me, when flying, of a darker plumage than the one forwarded. The height above sea level of the ground where I found these birds was about 7,000 feet; the ground was very steep, with patches of brush-wood here and there, in fact, just the ground for Cheer."

Between these notes we gather that these birds are winter migrants, some occasionally remaining till the beginning of summer. They keep habitually in coveys of six to ten, though single pairs may be met with. They frequent grass jungle and brush-wood, cling pertinaciously to cover, and are scarcely to be flushed without dogs, fly slowly and heavily, and soon drop again, Quail-like, into cover. They feed on grass seeds (and probably insects and berries), and when feeding, call to each other with a low short Quail-like note, their alarm note and call when separated being a shrill whistle. Their range in the Himalayas in winter is probably from about five to eight thousand feet.

NOTHING is known of their nidification.

CAPTAIN HUTTON furnished me with the following dimensions of a male:—

Length, 9·38; wing, 3·5; tail, 3·0; bill from gape, 0·75. But a perfectly adult pair measure in the skin:—

	Length.	Wing.	Tail from vent.	Tarsus.	Bill from gape.
♂	10	3·6	3·3	1·0	0·58
♀	9·9	3·5	3·2	0·9	0·55

Hutton says:—

Male.—Bill coral red; legs and feet dull red or dusky red.

Female.—Bill dusky red, lower mandible brightest; legs dull red; eyelids black, with a small white spot at the corners.

Major Carwithen says :—"The bill and legs were, when the bird (a female) was shot, of a bright pink."

THE PLATE is tolerable, but the lower parts in the male require a *slight* olive tinge, those of the female a rather warmer tint; the eyelid ring in the female, at any rate (and *possibly* in the male likewise), should be black ; the bills and feet should be a much richer, and the former a brighter red, and the white markings on the head of the male should have been in two continuous and regular lines, not broken up into patches.

NO OTHER species of this genus is known.

PERDICULA $\frac{3}{4}$ CAMBAIENSIS.

THE JUNGLE BUSH-QUAIL.

—o—

Perdicula asiatica, *Latham.*

—o—

Vernacular Names.—[Lowa (Hindustani); Gorza (? Hindi); Juhar, *Manbhoom;* Auriconnai (Sonthali); Girza-pitta (Telegu); Kari-lowga (Canarese), *Mysore.*]

—o—

ALTHOUGH the haunts and distribution of the present and the next species, the Rock Bush-Quail, are somewhat different, yet the two species are so similar in habits, resemble each other so closely, and are so persistently confounded even by ornithologists,* that I am compelled to preface my remarks on the first of these two species, by setting forth, as clearly as I can, the distinctions that exist between them, and the points which may be relied on for their discrimination.

The adults of both sexes (and I believe most of the young also) may be distinguished at a glance by two characters.

1st.—The *bright chestnut* hue of the chin and throat of the Jungle Bush-Quail, which contrasts equally strongly with the white, black-barred, lower surface of the male and the dull rufous of the same parts in the female. In the Rock Bush-Quail, the chin and throat are dull rufous, the chin often being, especially in the females, whitish, and in these latter the throat is unicolorous with the breast. It is difficult to represent colours accurately in words, but bright chestnut and dull rufous (*slightly* suffused in many specimens with a grey shade) are so different that this colouration of chin and throat ought alone to suffice to distinguish adults, at any rate, of the two species.

2nd.—The long, well-marked yellowish white superciliary stripe which, in the Jungle Bush-Quail, begins in males at the nostrils, and in females a little further back, and in both runs over the eyes and ear-coverts right down to the nape, averaging in males 1·15 and in females 0·9 in length. In the Rock Bush-Quail the supercilium is by no means well marked, very narrow, and only just extends to the ear-coverts; in many

* Thus, Mr. Gould, B. of As., XV., pls. 12 and 13, gives us some beautiful figures of what he supposes to be the two species, *asiatica,* the Jungle Bush-Quail, and *argoondah,* the Rock Bush-Quail; but all his figures *really* represent one species only, *viz.*, the Jungle Bush-Quail, and what he supposes to be an adult female of *argoondah* is merely the young of the Jungle Bush-Quail before the chestnut of the throat has shown out.

specimens it is scarcely traceable. Moreover, the supercilium, such as it is, in the Rock Bush-Quail is *immediately* above the eye and ear-coverts, whereas in the Jungle Bush-Quail the long supercilium is separated from both eyes and ear-coverts by a narrow band of the same rich chestnut as the throat.

Besides these differences, there is in the males of the Jungle Bush-Quail a well-marked yellowish white rictal stripe running under the eye and ear-coverts, while in the Rock Bush-Quail there is only a faint trace of a pale line.

The black bars on the lower surface of the Jungle Bush-Quail are far more regular and better marked than those of the Rock Bush-Quail. Indeed, in this latter species, it is only on the neck and breast that they are at all regular and continuous, while in the Jungle Bush-Quail they are regular and continuous almost to the vent.

In the females of the Jungle Bush-Quail there is only a trace of the rictal stripe. The young males resemble the females, but have the rictal stripe well marked. At first the breast and abdomen is the same dull rufous, faintly suffused with grey, as in the adult female; then the tips of some of the feathers become yellowish, then a dusky line appears above this tip, then the tip becomes whiter, the line becomes a dark bar, and above this a pale bar bounded by a dark line begins to show; lastly, the tips and bars become nearly pure white and blackish brown, and the rufous disappears entirely, except about the vent, thigh-coverts, and lower tail-coverts. These parts, I may note, are always *rufous* in the Jungle Bush-Quail, and a kind of pale dingy sandy hue in the Rock Bush-Quail. I have also remarked that in this latter species there are almost invariably more or less distinct bars on the lower tail-coverts, whereas in the former species these are (in all the specimens I have seen) entirely without any trace of bars.

I may add, that in one stage of the quite young Jungle Bush-Quail, the feathers of the cheeks, of the throat, sides of the breast and interscapulary region are very conspicuously white shafted—-a feature which I have failed to observe in any of my specimens of the Rock Bush-Quail.

Again, as a general rule, the tertiaries aud scapulars in the Jungle Bush-Quail are very conspicuously blotched with black, and also usually have conspicuous yellowish white to reddish buff shaft stripes, both of which are almost entirely wanting, or at most are but feebly reproduced, in the Rock Bush-Quail. But too much stress must not be laid upon this, because it only really suffices to separate nearly adult up to middle-aged birds; since in very old specimens of the Jungle Bush-Quail these blotches almost entirely disappear, while in quite young birds of the Rock Bush-Quail these blotches are pretty conspicuous, though not nearly so much so as in the corresponding stage of the Jungle Bush-Quail.

And now one word about the scientific names under which these two species should stand, as in this matter also the utmost confusion has prevailed.

Both these species have been figured by Sykes, Tr. Z. S., Vol. II., pl. 2 and 3. They are not well figured, quite the contrary, but still they are *recognizable*, and Jerdon was quite right in correcting Blyth and in assigning *Coturnix pentah*, Sykes, to the Jungle Bush-Quail, and *Coturnix argoondah*, Sykes, to the Rock Bush-Quail; but when it came to Latham's name, Jerdon was, I think, in error. Carefully comparing Latham's description of his Asiatic Partridge (*Perdix asiaticus*), especially the passage "through the eye and behind brown, beneath it a patch of fringed whitish feathers, rufous in the middle," there can be no doubt, I think, that this name of Latham's, *asiatica*, was applied to the Jungle Bush-Quail.

On the other hand, Latham's other name, *cambaiensis* (erroneously printed on our plate of the Jungle Bush-Quail), cannot, as I have shown elsewhere (STRAY FEATHERS, Vol. VII, p. 158), possibly apply to either species.*

This species, the Jungle Bush-Quail, is found in suitable localities almost throughout India, from near Colombo, in Ceylon, to the outer ranges of the Himalayas in Kashmir, but it does not, so far as I know, extend to Sind, nor anywhere east of the Ganges from Rajmehal southwards. Blyth says it is the only species in Bengal, but Bengal is a wide term, and so far as my present information goes, it is only quite as *a straggler* that it extends anywhere into the deltaic districts of Bengal,† or descends from the somewhat higher ground, approximately indicated by a line drawn through Midnapore and Rajmehal.

The two species have been so constantly confounded that I cannot rely on the localities given by others, but the following is a list of the places from which I possess, or have seen and verified, specimens of this species :—

Near Colombo and Eastern Province, Ceylon; Malabar Coast, several localities; the Wynád; Mysore, several localities; Madras (neighbourhood of); Pothanore; several of the Bustar Feudatory States; several localities on the Eastern Gháts; Satara Hills; Western Gháts, Mahábaleshvar, Khandála, and other localities; Ratnagiri and Southern Koncan generally; Chánda, Seoni, Narsinghpur, Bilaspur, Raipur, Sambalpur, Lohardugga, Manbhúm; Rajmehal Hills; Mirzapur; Etáwah (Ravines of Valleys of Jumna and Chambal); Kucháwan (scrub jungle of

* I am aware that Temminck, who undoubtedly figured this present species (P. C., 447), says that he examined Latham's type, and that it was a mutilated and immature bird of this species. But Latham's description will not answer to any stage of our present bird, whereas his other name *asiatica* does, and the name *cambaiensis*, no matter what the type *may* have been (and there is no reason to believe that Temminck could discriminate immature birds of this and the Rock Bush-Quail), must be altogether suppressed.

† Mr. Rainey, however, writes to me, that he has once or twice seen this species in the Jessore district during the cold season.

hills); Mount Abu; Valley of Tápti, W. Khandesh; Lucknow; Umballa; the Dún; Lower Himalayan ranges, below Kumaun, Mussooree, Simla, and of Kashmir.

Much remains to be done before we can exactly define the distribution of this species, but the above remarks will, I hope, help to convey some general idea of its range in India.

Outside our limits it is not found.

MODERATELY thick forests and jungles, hills, ravines, and broken ground, not too deficient in cover, and rich cultivation, if not in too damp and undrained situations, from near the sea level to an elevation of four to five thousand feet, are the ordinary resorts of the Jungle Bush-Quail. Very considerable differences in rainfall affect them but little, provided the ground is hilly, raviny or well drained, and cover sufficient, and they are abundant, as on the Western Ghâts, where the rainfall is over 100 inches, and on scrub-clad hills in Rajputana, where it certainly falls short of 20 inches.

Little bustling ground birds, always keeping, according to my experience, in packs or families; never coming out into the open; always feeding in grass, jungle or stubble long enough to hide their tiny selves; there is but little to be said of their habits. They are very tame, and trouble themselves but little about men; and if you stand perfectly still for a few minutes, will bustle about within a few yards of you, all feeding, chirping and scratching in the dust as if their lives depended upon their getting through a certain amount of all this within the shortest possible time. Even when thus at their ease, a pocket handkerchief would often cover an entire covey of a dozen; they have often reminded me strongly when thus moving about, the whole body animated, as it were by one impulse, of a flock of Guinea-Fowl. Make the least sound, and the whole party cluster together into the space a dinner plate would cover; and, unless pressed, glide away *en masse* out of sight. You make a rush, and, suddenly from the grass on which your foot is descending, a lively fountain of small birds spurts out, with a vast amount of whirring, and sharp quivering whistling. In *every* direction fly the birds, every one of which probably drops, as if shot, within 20 or at most 30 yards. Immediately some one or two begin calling vigorously; within five minutes, if you have not fired and keep still, your dog will put the whole reunited covey up again, perhaps nearly a hundred yards away, perhaps closer to you than any one of them alighted.

Their chief food appears to be grass seeds and grains of millets. Ragi stubble is a sure find for them; but they eat any small seeds and grains, and *sometimes* you find quantities of insects, ants and tiny coleoptera in their crops. I am disposed, however, to think that they only eat these latter when grain and

seeds are scarce, for in numbers that I have examined nothing absolutely but these latter were to be noticed.

Jerdon tells us that "in the south of India the Jungle Bush-Quail frequents open forests, thick patches of jungle, and especially grassy hill sides, with a few scattered bushes, also fields near hills or jungle. Riding through some of the more open forests, especially in the upland districts, a bevy of this little bird is often seen crossing the road, or feeding on grain dropped by cattle."

Col. Sykes remarks:—"These birds are met with only on the mountains, on the slopes and sides of which they rise in coveys from amidst reeds and long grass and brushwood with the same startling whirl, uttering cries of alarm, as the Rock Bush-Quail. My specimens were shot at 4,000 feet above the sea."

Of course, it is not true for India generally that this species is found only in the hills, but it is approximately so in the localities of which Sykes was writing, the Rock Bush-Quail being common all over the Deccan, while the present species is almost confined to the Western Gháts and other hills.

Col. Tickell, who, although he did not distinguish the two species, was clearly, I think, from the localities he cites, writing of the present species, says:—

"These little Partridges, called from their size 'Bush-Quail' by sportsmen, are tolerably common in the jungly tracts of India—off the alluvium, to the south and west of the Ganges and Bhágirathi. In the more arid parts of Singhbhoom, in Bankoora, Midnapore, Hazáribágh, Beerbhoom, and Chota Nagpore, they are pretty numerous. They prefer stony, gravelly places, amongst thorny bushes, such as the jujube or bér; or tracts of stunted Sâl, Assun, and Polâs (or Dhâk): congregating in coveys of eight to a dozen under thickets, whence of an evening they emerge into adjacent fields, meadows, and clumps of grass to feed. They lie very close, suffering themselves to be almost trodden upon, and then rise at once out of some small bush, with a piping whistle, and such a sudden start and whirr, instantly flying off to all parts of the compass—including sometimes a close shave of the sportsman's countenance—that a more difficult bird to hit could nowhere be found, especially as their flight is prodigiously rapid, and directed so as barely to skim the upper twigs of the bushes. They do not go far, but when once down are hardly ever flushed again till they have reunited. This they lose as little time as possible in doing, running like mice through the herbage to some central spot, where the oldest cock bird of the covey is piping all hands together Although so gregarious and sociable, these birds are very quarrelsome, and their extreme pugnacity leads to their easy capture. The mode of taking them is precisely the same as that which has been already described with regard to the Grey Partridge (*Ortygornis pondicerianus*), of which bird the Bush-Quail is in

habits almost the exact counterpart. Blowing upon it excites the same fury as in the Grey Partridge. It would be curious to know whether this singular trait is found amongst other game birds. The Bush-Quails fight with even greater rancour, and certainly with greater clamour, than the Greys, and it is not infrequent to noose every one in the jungle before the trapper has finished his operations in one spot. This mode of catching the 'Lawa' is one of the commonest amusements of the zemindars, or native chiefs, of Singhbhoom, and I have witnessed it myself on several occasions at Kharsánwa, Saraikela, and other towns of that country. Bush-Quails are not often caught by hawking, as the Uriyas do not care to trust their trained sparrow-hawks (shickras and besras) so much amongst the jungle. For the table they are hard and tasteless, and they are valued by the natives chiefly for their fighting qualities, which do not appear to degenerate even after long confinement."

Capt. Butler states that "the Jungle Bush-Quail supplies the place of the next species on the hills and in thick jungles. It is very common at Mount Abu, but never occurs out of the jungles, *id est*, it does not affect bare open ground like the Rock Bush-Quail. It is exclusively, I believe, a hill resident. I have never met with it anywhere excepting in hilly jungles; and, so far as my experience goes, where this species occurs the next does not. I never had any difficulty in distinguishing it from *P. asiatica*, owing to its colouring being so much brighter, especially about the head. It breeds at Abu after the rains, but I have never succeeded in finding a nest."

Here, again, it is not strictly correct that this species is *only* found in hilly ground, or that where the one species occurs there the other does not. In Etáwah, for instance, in places where the deep scrub-clad ravines of the Jumna abut on the dry level, oosur plains or scanty cultivation of the drier, higher portions of the Doab, I have shot both species in the same field. Still Capt. Butler's remarks are approximately true as a rough generalization.

From Lucknow (where I have not yet ascertained the occurrence of the Rock Bush-Quail,) Mr. Reid writes:—

"The Jungle Bush-Quail is not common in the Lucknow division, but is very generally distributed, a few being almost always flushed when beating about hedges and patches of grass in unfrequented groves and gardens, and sometimes in bush and grass jungle in undulating and raviny ground. It appears to be a permanent resident."

Mr. G. Vidal says:—"The Jungle Bush-Quail is common in the Ratnagiri district, both near the coast and inland. It frequents the low scrub jungle on rocky hill sides. The natives catch them by night with the aid of torches—all huddled together in a compact mass, and dazzled by the glare of the torches, whenever found, they fall an easy prey. They

generally roost on open ground, and associate in moderate-sized coveys of from ten to twenty birds."

Although these are eminently ground birds, they will at times, probably only when frightened by dogs, perch upon trees. I have myself observed this of the present species, and Mr. Blewitt has noticed it in the case of the Rock Bush-Quail.

I HAVE NEVER taken the eggs of this species myself, but it appears that they lay from September to February, at least I have received eggs, found in all these months.

The nest, always placed on the ground under the shelter of some bush or tuft of grass, is of moderate size, circular, and shallow, more or less fitted into a corresponding depression of the soil, and more or less neatly constructed of grass and roots. Five to seven eggs seem to be the full complement ; in one case a clutch of only four eggs was hard set.

Mr. R. Thompson, writing from the Chánda district, says :—

"I found this nest on the 22nd of November ; it contained six eggs. The nest itself was placed on the ground on a spot on which grew a few scattered bunches of grass ; it was neatly made of small roots and fine grass, saucer-shaped ; the cavity about two and half inches in diameter. The old female sat very close on her eggs, and only got off when I put out my hand to take her.

"The Jungle Bush-Quail breeds with us here between October, November and December. In September I have seen the birds pairing off, and by October none but couples are met with. As soon as the young are able to fly, they begin to collect in packs, in which the parent birds of the various coveys are easily distinguishable by their size and plumage."

Personally, my belief is that, even during the breeding season, they are gregarious. Certainly I have flushed parties in both November and December, as well as during the spring, when also, undoubtedly, some birds breed. Whether *some* birds breed in the autumn, *others* in the spring, or whether all generally have two broods, I cannot say.

Mr. Vidal writes :—

"I found a nest on 17th January 1879 with two fresh eggs, faint *café au lait* colour, and in this month and the next all the coveys contain young chicks."

Eggs sent me (in each case with one of the parent birds) are quite undistinguishable from those of the Rock Bush-Quail. They are regular ovals, more or less pointed (but never pronouncedly so) towards one end, have a faint gloss, and are in colour a spotless creamy white varying to a very pale *café au lait* tint.

They vary from 0·96 to 1·1 in length, and from 0·79 to 0·9 in breadth, but the average of 17 eggs is 1·0 by 0·83.

THE MALES are rather larger than the females (and exhibit, moreover, a small blunt tubercle, representing a spur, on the back of the tarsus), but the differences are so small, that it is useless to give the dimensions separately, the more so that birds from different localities vary a good deal in size, and the females from some places are quite as large as the males from others.

Length, 6·3 to 7·2; expanse, 10·0 to 11·1; wing, 3·0 to 3·5; tail from vent, 1·5 to 1·78; tarsus, 0·94 to 1·0; bill from gape, 0·5 to 0·6; weight, 2 ozs. to 2·85 ozs.

The legs and feet vary from light waxy orange, through bright orange to yellowish red; the irides from light to hazel brown; the bill is black or dusky, often with a reddish tinge at the base, which occasionally spreads more or less over the rest of the bill. In two or three I have recorded the bill as slaty at the base, in others the entire bill was bluish black. The dimensions and colours above given (except perhaps those in the last preceding sentence) are those of adults; the young are much smaller, and I have an impression that they have the legs rather paler and pinker, and the bills paler.

THE PLATE is good, but in neither of the figures in the foreground are the legs sufficiently brightly coloured; the red about the face and throat of the male should be more of a chestnut. In the female the long white superciliary stripe, which is just as conspicuous as in the male, has been omitted. The figure in the background is a young female, but the pale buff superciliary stripe is too short, and the conspicuous whitish shaft stripes of the breast and sides of the breast, which this figure was specially intended to illustrate, are barely indicated.

It is a pity, too, that the female has her back turned to the spectator; she has the chin and throat like the male, but the whole of the rest of the lower parts spotless, and of the same colour as is shown on the flanks.

The species is wrongly designated *Perdicula cambaiensis* on the plate.

3/4

PERDICULA ASIATICA.

THE ROCK BUSH-QUAIL.

---o---

Perdicula argoondah, *Sykes.*

---o---

Vernacular Names.—[Lowa (Hindustani, Mahrathi); Lawunka (Telegú); Sinkadeh (Tamil); Kemp-lowga (Canarese), *Mysore.*]

---o---

IT is difficult to indicate precisely the range of this species. Jerdon tells us that it does not occur north of the Nerbudda, but this is quite wrong, as it is the common, and often the *only*, species in many parts of the Punjab, Rajputana, the Central India Agency, and the North-Western Provinces.

The geographical range of this species is really, I believe, much the same as that of the last, but their stations, *i.e.*, the localities they affect, being widely different, their distribution is generally complementary to each other.

Like the Jungle Bush-Quail, the present species extends neither westwards into Sind nor eastwards into the alluvium of Lower Bengal, nor, so far as we know, anywhere eastwards of the Ganges.

I do not know that it occurs in Ceylon; all the Cinghalese birds that I have seen belonged to the other species, but it occurs in the Peninsula on the eastern side down to the extreme south, and in all the drier eastern Madras districts, and even near Coimbatore; in the barer plains portions of Mysore; almost throughout the Deccan; in many parts of the Nizam's Territory and Berar; in Gwalior and many parts of the Central India Agency and Bundelkhand; near Bassein, Deesa, in the Pánch Maháls, and in Cutch; near Ajmere, Beaur, the Sámbhar lake, the plains below Abu, Jodhpore, and many of the less desert portions of Rajputana; in Jhánsi, Allahabad, Cawnpore, Etáwah, Agra, Fatehgarh, Meerut, and other plains portions of the North-Western Provinces, and in Delhi, Gurgaon, and Lahore, and doubtless other districts of the Punjab.

It is of course a purely Indian species.

IT IS in the nature of the localities it affects that (as in the case of the Jungle Bush-Quail) the key to its irregular distribution is to be found; it avoids mountains, which it never ascends,

forests and thick jungle, and eschews well-watered and richly-wooded or cultivated tracts; it loves dry, open, sandy or even rocky plains or low hillocks, sparsely studded with thin thorny bushes; elevation is not of so much consequence to it as the openness and semi-waste character of the place. You will find it equally at home on the plains about Ajmere, at an elevation of 1,700 feet, and near sea level in the Carnatic. Dry, half-barren, sparsely-cultivated plains districts are its choice, and hence it follows that, although where localities such as it affects inosculate with those that the Jungle Bush-Quail prefers, you *may* shoot both species in the same stubble, yet, broadly speaking, as Captain Butler remarks, where you find the Rock Bush-Quail, there, as a rule, you do not find the other species.

As regards habits, notes and food, I have never detected any difference between the two species, except that, perhaps, the packs or bevies into which both species collect are rather smaller in the case of the Rock Bush-Quail.

In Southern India the natives *do* appear to distinguish the two species. In Upper India I have always heard them both indiscriminately called "*Lowa*"—a name often equally applied to *Turnix taigoor*.

Colonel Sykes, who first discriminated (though somewhat doubtingly) this species, tells us that :—

"These birds do not frequent cultivated lands, but are found all over the Deccan on the general level of the country, amidst rocks and low bushes. They rise in coveys of from ten to twenty or more from under the feet with a startling suddenness and bustle, and the young sportsman is perplexed in selecting his bird. They are gregarious, and I infer polygamous, as I never saw them solitary or in pairs. Flesh perfectly white.

"This is the species used for *Quail* fights by the natives."

Jerdon again says :—

"It frequents rocky hills with low scrub jungle, and especially barren, uncultivated plains, scantily covered with low bushes of *Zizyphus* or *Carissa*, and other thorny shrubs, out of which the bevy rises, ten or a dozen or twenty together, with a startling suddenness and bustle, dispersing more or less among the neighbouring bushes. The flesh of this Bush-Quail, as well as of the last, is perfectly white, and it makes a good pie. Plain roasted, they are not so good as the species of *Coturnix*, being dry and with little flavour.

"The Rock Bush-Quail is much used for fighting among the Mussulmans of Southern India, as indeed the Jungle Bush-Quail is also, though not so common, nor so highly esteemed."

Mr. J. Davidson writes to me :—"The Rock Bush-Quail was common in the Sholapur district, nearly everywhere. Its favourite resorts were the stony hillocks with a few scrubby bushes, which are in most places scattered among the cultivated land there. It was, however, a very common thing to start a

covey, or, in the rains, a pair from the strips of grass forming the boundary between two fields. I fully expected to find this species replaced by the Jungle Bush-Quail in the Pánch Maháls, but all I shot there belonged to this species."

And again, Captain Butler remarks:—

"The Rock Bush-Quail is very common in the plains of Northern Guzerat and below Mount Abu, but does not ascend the hills. Unlike the last species, it frequents open, rocky, cultivated and uncultivated ground, with low bushes for it to take refuge in when disturbed. It begins to lay about the middle of August, at which time of year they are always found in pairs and lie very close. I have never met with it in thick jungles like the last species."

Although frequenting much more open ground, it is yet scarcely more often seen, unless specially watched for, than the Jungle Bush-Quail; and, sparse as is the cover it affects, it is still quite sufficient to conceal it, as a rule, until, on your almost treading on it, it rises, the whole party exploding (if I may use the word) simultaneously.

Like the last species, they *sometimes* do perch. Writing from Jhánsi, Mr. F. R. Blewitt noted that:—

"Walking early one morning with a pointer in the garden, the latter suddenly pointed facing an orange tree. Curious to know the cause, I approached the tree—when, suddenly from a lower branch, four of the Bush-Quails flew away. Again the other morning my spaniels were beating some low grass, and flushed a Bush Quail, which flew and sat on the upper branch of a large *neem* tree. These are the only two instances in which I have seen this Quail perch on trees."

Neither species affords much sport in the ordinary way; but if you have good small dogs that will work in the dwarf jujube bushes, and are so clad about the nether extremities that you too can bustle about in these comfortably, then the Bush-Quail will, in many places, afford you as pretty shooting as a man can desire.

It is no use, of course, firing whole charges after mites of birds like these that always drop within thirty yards; a drachm of powder and half an ounce of No. 10 or dust shot was what I always used.* Their flight is extremely rapid, and they afford excellent

---

* For the benefit of those who use (as most men do now-a-days) breech-loaders, I may mention that cartridges for this kind of sport, and for collecting small birds generally, may be very easily prepared. Put in the one drachm of powder and ram lightly down a thin wad, then fill in the cartridge with *clean dry sawdust*, tightly rammed in with a thick *paper* or thin cardboard wad. On this place the half ounce of No. 10 or dust shot. Put in the usual cardboard wad and close the cartridge in the ordinary manner. It will be exactly the same length and look exactly like an ordinary cartridge, but will always be distinguishable by its lightness. The force of the explosion is so much reduced, that you may reload after this fashion a good green case from 8 to 20 times according to climate. I scarcely use any thing but these cartridges now. Up to 30 or even 40 yards they will kill Snipe and Quail and all small birds as well as full cartridges. You may fire them from morning

practice. I remember once firing nearly fifty shots within an hour at Rock Bush-Quails. I decline to state how many I killed on that occasion. I had no dogs; my beaters said I did not hit the birds. I said they were fools and could not find the birds when I shot them; but on another occasion, *with* dogs, I actually bagged 22½ brace between 3 P.M. and dusk.

As Jerdon says, they make a very good pie, *if* you proceed as follows:—

First get one to two pounds of the best beef-steak; then take twelve of the Bush-Quail nicely plucked and cleaned; cram a dessert spoonful of *paté de foie gras* inside each bird, and wrap each up in a thin slice of bacon; add a small tin of trufles, half a bottle of button mushrooms, six hard-boiled eggs, each cut in half, condiments, sauces, &c., *selon le goût*, and fill in with rich stock (a couple of hares boiled down with a shin bone do famously); then, if your cook makes good crust and the pie is baked slowly and properly, you will find, as Jerdon says, that Bush-Quail *are* very good in a pie.

THE ROCK BUSH-QUAIL lays at any time from August to December, and again in March, and, for all I know, may lay at other times also; but I have myself taken nests in all the months mentioned. I think they have two broods in the year, but cannot be certain; anyhow, March and September are the months in which I have found most eggs.

They always prefer semi-waste strips of land, covered with high grass and in the neighbourhood of cultivation, for nesting. The nest is slight, composed of grass loosely wound round into a circular shape, and is placed generally, but not always, in a depression, scratched for it by the birds, at the foot of some tuft of grass or under some thick bush.

Six or seven is the usual number of eggs laid. I have never seen, though I have *heard* of, more in a nest.

Writing from Jhánsi, Mr. F. R. Blewitt says:—"The Bush-Quail, I do not know which, but I send you both birds and eggs" (and the birds were the Rock Bush-Quail), "breeds in August and September. The nest is merely an excavated cavity, of from five to six inches broad, at the base of a thick patch of grass and quite under it. A few pieces of grass are laid at the bottom of the nest. The female sits very close on the eggs, and I have stood a yard from the nest without her attempting to rise; only when I have brought my hand near to her has she flown off. Six appears to be the regular number of eggs, though probably this may sometimes extend to seven or eight."

---

till night, and never feel it; whereas, all of us who are not exceptionally robust know that firing more than from 80 to 100 full charges brings on a headache. The report is so much reduced in intensity that, unless they are *quite* close, firing at one bird does not frighten away others.

Mr. Davidson tells me that:—

"In both Sholapur and the Pánch Mahâls, this Quail bred in the latter part of the rains among longish grass, the general number of eggs, and the most I have taken, being six."

Captain Butler notes that he "found two nests, each containing five fresh eggs, on the 27th August 1875 near Deesa. The first was in the middle of a tussock of coarse grass about eight inches from the ground; it consisted of a concave pad composed of short blades of dry grass. The second consisted of a hole scratched at the foot of a small tuft of grass on the bank of a nalla, and lined with short blades of dry grass.

"The eggs, in both instances, were broad ovals, much pointed at the small end, and in colour creamy white. The shell, as in the preceding species, is very strong, and occasionally blotched with lime. I found another nest under a tussock of grass near the same spot containing two fresh eggs on the 29th August 1875, somewhat elongated ovals and blunt at both ends, being the same width throughout. Other nests in the same neighbourhood as below:—

August	17th,	1876,	a nest containing	1	fresh egg.
„	19th,	„	ditto	4	do.
„	„	„	ditto	5	do.
Sept.	1st,	„	ditto	5	do.
„	3rd,	„	ditto	4	do.
„	„	„	ditto	5	do.
„	4th,	„	ditto	5	do.
Novr.	27th,	„	ditto	4	do.

"All of the last-mentioned nests were in a grass preserve, and similar in every respect to the second nest described above."

Writing from Amraoti, in Berar, Mr. J. Aitken remarks:— "The Rock Bush-Quail is very abundant here; coveys may be started wherever there is the slightest cover. They breed during November and December. I have found the nest repeatedly; it is composed of grass and placed under a bush. Sometimes it contains as many as seven eggs; they are large for the size of the bird, and might pass for diminutive eggs of the Grey Partridge. Even at this breeding season they seem to feed in company, and newly-hatched birds may frequently be seen running amongst half-a-dozen old ones. But the female continues to watch over her brood with the utmost solicitude, and I have had to swerve my horse to prevent his setting his foot on one as she crouched anxiously over a chick."

Typically the eggs are moderately broad ovals, a good deal pointed towards the small end; but more or less elongated varieties occur, and here and there pretty perfect ovals, or even eggs pointed at both ends, are met with. The eggs are white, glossy, and spotless, tinged, but far less deeply than in the Grey Partridge, with excessively pale *café au lait* colour.

In length they vary from 0·95 to 1·12, and in breadth from 0·78 to 0·91; but the average of forty-one eggs is 0·84 by 1·02.

IN THIS SPECIES I cannot discover any constant difference in size in the sexes. Although the difference is not much, still, collating all the measurements I have on record, this species seems to be a trifle, a mere trifle, larger than the Jungle Bush-Quail.

Length, 6·7 to 7·25; expanse, 10·0 to 11·2; wing, 3·1 to 3·5; tail from vent, 1·5 to 1·9; tarsus, 0·75 to 1·0; bill from gape, 0·5 to 0·67; weight, 2·25 ozs. to 3 ozs.

The legs and feet are dull red to bright orange red, in younger birds brownish fleshy, and every intermediate shade is observable; irides brown to light red; bill, upper mandible, black, lower paler, often bluish grey at base; in younger birds the upper is dark horny brown, the lower pale fleshy.

THE PLATE is a very pretty and artistic performance, but it is, from our point of view, eminently unsatisfactory. In the first place, the beautifully drawn figure on the right, the standing bird, is an old female of the *Jungle Bush-Quail*, and at any rate usefully supplements the plate of that species. NOTE that the plate is wrongly named, and should stand as *P. argoondah* and not *P. asiatica*. The Central Quail in the fore-ground fairly represents an old female of the Rock Bush-Quail. The figure to the left, squatted down, will also pass muster for a young female, but both old and young males (the old with his white, closely-barred breast, pale dull rufous chin and throat and no perceptible supercilium, the whole upper surface transversely barred) are placed at such a distance in the back ground that nothing can be made of them. It is simply hopeless getting illustrations done at home unless you are there yourself to supervise the artists.

F. Waller Chromo Lith. 18 Hatton Garden London

$\frac{3}{4}$

PERDICULA ERYTHROHYNCHA

THE PAINTED BUSH-QUAIL.

Microperdix erythrorhynchus, *Sykes.*

Vernacular Names.—[Kokni-lowa (Hindustani ?) ; Kadai (Tamil)]

THROUGHOUT the Pulneys and Nílgiris, in the Wynád and Coorg, and thence northwards along the Western Gháts, at any rate as far north as the latitude of Bombay, the Painted Bush-Quail is found in suitable situations. It also occurs in hills eastwards of the Gháts, in Mysore, Belgaum, Satara, Dharwar, &c., and single specimens have been obtained near Sholapur, and near Poona itself.

Whether it extends at all northwards of Bombay, or whether again it stretches southwards from the Pulneys into the Assambu or Cardamom Hills, I have been unable to ascertain ; and, generally, I may say that, well-known as this species is, its range has as yet been very imperfectly determined.

We do know, however, that it is a purely Indian form, confined to the Peninsula, and certainly not extending up, as so many other southern forms do, even as far north as Mount Abu.

I HAVE only myself seen this species about the gardens of Ootacamund. Mr. Davison, who has watched, shot and snared them for years, remarks :—

"The Painted Bush-Quail is very abundant on the Nílgiris and their slopes, and is not uncommon in the Wynád. They always occur in bevies, numbering eight to twelve birds. They of course avoid the inner depths of the jungles, but are found on the outskirts, especially where there is good dense cover, such as the common brake fern ; but their favourite resort is rather rocky ground, interspersed with bushes and dense clumps of fern and high grass, especially when such places abut on or are near cultivation, or any road along which cattle, carrying grain, habitually pass.

"About the station of Ootacamund they are, even to this day, not uncommon ; and in the grounds of almost all the outlying houses, where these are tolerably wooded, one or more coveys are sure to be found. In the mornings and evenings, they are very fond of coming out into the open, and I have

met with a dozen or more coveys on the road in a morning's ride between Coonoor and Ooty. They are tame little birds, and will seldom rise when met with on a road unless hard pressed or suddenly surprised; they content themselves with running on ahead, occasionally stopping to pick up a grain or an insect, until they think they are being too closely followed, when they quietly slip out of sight into the first bit of cover they come to.

"When retreating, they keep uttering a very rapidly and continually repeated note, in a very low tone, hardly to be heard unless when one is quite close to them.

"When flushed they do, as a rule, rise, as Jerdon says, all together, usually scattering in different directions, but this is by no means invariably the case, and sometimes, even before a dog, they will rise singly, or in couples, several minutes often intervening between the rise of the first and last birds. With dogs they are always easily flushed, but if there be no dog to press them, after having been once disturbed, they will either lie very close or dodge and run about amongst the bushes in a most persistent and disheartening manner. I have occasionally marked a bird into an isolated bush, which I have had to kick and trample to pieces before the bird would rise.

"Their call is a series of whistling notes, commencing very soft and low, and ending high and rather shrill, the first part of the call being composed of single, the latter of double, notes sounding something like tu-tu-tu-tu-tutu-tutu-tutu, &c. When a covey has been flushed and scattered, one bird commences after a few minutes calling in a very low tone, another immediately taking it up, then another, and so on. They then begin cautiously to reunite, uttering all the time their low note of alarm, moving very slowly, with continual halts while in cover, but dashing rapidly across any open space they may have to cross.

"When calling to each other after having been scattered, the call is uttered in a very low tone, so that it appears to come from a long distance off, though the bird may be within a few feet of one. Perhaps the birds ventriloquize, and that it is not only the lowness of the tone that so misleads one.

"They are, of course, permanent residents on the Nílgiris and in the Wynád, and, from my experience, I may go further and say that they seldom wander far from the place in which they were bred.

"They are very easily snared, the simplest way being to stretch tightly a bit of string, say four or five yards long, and about six inches above the ground, in any place frequented by the birds, and to this string to suspend, closely placed side by side, a number of horse-hair nooses, after sprinkling a little grain along both sides of the line. The birds, in moving about from one side to the other, picking up the grain, get the nooses round their necks, and soon strangle themselves; but this ruins the birds as specimens, as the noose always cuts the birds' necks, and often nearly severing the

head from the body ; they can also be easily taken by a fall net, or in any other way in which ground birds are captured."

Miss Margaret Cockburn says :—

"Painted Bush-Quails are very numerous about Kótagiri, where I live, and other places in the Nílgiris, and are always met with in flocks. They run with such rapidity, that they look like little brown balls rolled along the ground. These Quails feed on small grain and insects. They do not migrate from the hills.

"Like all the genus, they are pugnacious, and both males and females (?) have desperate battles, which often end in the death of one or more.

"The natives often rear these Quails as decoy birds. They make small square bamboo cages. In the centre is a small square compartment, in which the decoy bird (male or female) is confined. Little bars run from each corner of this inner compartment to the inner corner of the cage, thus dividing the space which runs all round the former into four verandahs, if I may use the word. The outer sides of these, in fact of the cage itself, let down, and are so arranged that, by the pressure of the bird's feet on the bars, which form the floor of the verandah, they start up again, and enclose whatever is in that particular verandah. Spring cages of this nature are in use, I believe, in many parts of India, though the arrangements for springing the sides vary a good deal.

"The cage, the spring sides duly set, is placed on the ground in some locality where the wild birds are common. The owner hides himself behind a bush, and begins to imitate the bird's note by whistling like them. Instantly his own bird begins to call, and the wild ones all around answer it. In a few minutes these surround the cage, and rush into the verandahs to get at the decoy bird ; the spring sides fly up and close with a click, and the would-be combatants are captured. Hearing the sound, the Quail-catcher runs out, transfers the captured bird to his netted bag, re-sets the spring sides, and repeats the process.

"Sometimes, in addition to the spring cage, a small bamboo frame-work of varying length, and three or four inches in height, is placed upon the ground in a zig-zag shape, partly or entirely surrounding the cage, and distant from it two or three feet. This little fence is pierced by numerous apertures (just large enough to allow the bird to pass), to each of which is attached a horse-hair noose. As this Quail prefers creeping through any hole to flying over any obstacle, however low, many which escape the spring cage are caught in the nooses.

"When the natives come across a very young brood, they catch two or three of them, and put them into a hole about a foot deep, which they dig in the ground. The parent birds, finding that the young ones cannot come out to them, very soon drop into the hole, when the native, who has been watching from

behind some bush, creeps softly up, throws a cloth over the hole, and captures them.

"In these, and other ways, great numbers are captured, partly for sale, partly for fighting purposes. They are considered great acquisitions by the natives of the plains, who greatly delight in Quail-fighting, and lay large bets on the issue."

Jerdon remarks, and I myself noticed this, that this species rises with a less noisy whirr than the Rock and Jungle Bush-Quails, the whole plumage being softer.

They feed very greedily on the lesser millets, and when they can get any of these like the "Sawan" [*Panicum miliaceum*], they feed on them exclusively, but at other times no small seeds or insects seem to come amiss to them.

From the end of August until well into April, according to situation and elevation, eggs of the Painted Bush-Quail are to be found. As in the case of many other species, their season of nidification probably depends a good deal upon whether their habitat is exposed to the south-west or north-east monsoon. Possibly they have two broods.

Ten is, I believe, the full complement of eggs, but many more are said to be sometimes found, and perhaps two hens occasionally share a nest.

The nest is placed on the ground under the shelter of some cover, and varies precisely as does that of the Rock Bush-Quail.

Miss Cockburn writes:—"The Painted Bush-Quail breeds in the months of January, February, and March, and again in September and October. They build no nests, but merely scratch shallow holes in the ground, in which they lay from ten to fourteen eggs. A few minutes after the young are hatched, they are able to accompany their parents in search of food. I do not know a prettier sight than a brood of these young Quails running after the old birds. They are such pretty little dark downy things, with three stripes of a very light cream colour extending down their backs."

From the Wynád, Darling reports:—

"Down here the Painted Bush-Quail lays from August to November. I have taken numbers of their nests both here and on the Nílgiris. I have never found more than ten eggs. The nest is on the ground, and is placed in a tuft of grass, or close under a small bush, or in patches of weeds between the coffee bushes. Sometimes it is merely a bare hole scratched in the ground, but at others it is lined with grass."

Eggs of this species sent me from the Nílgiris are long ovals, pointed towards the small end, somewhat glossy, spotless, and of an uniform, often very pale, *café au lait* colour. Both in colour and size these eggs are intermediate between those of the Grey Partridge and the Rock Bush-Quail.

In length they vary from 1·11 to 1·35, and in breadth from 0·87 to 0·95; but the average of thirty eggs is a little over 1·22 by 0·91.

IN THIS species, as in Jungle Bush-Quail, the males *average* somewhat larger than the females, but the differences are too small to render it necessary to give the dimensions of the two sexes separately.

Length, 6·6 to 7·5; expanse, 10·0 to 11·3; wing, 3·0 to 3·5; tail from vent, 1·5 to 2·0; tarsus, 0·97 to 1·1; bill from gape 0·6 to 0·7; weight, 2·4 to 3·1 ozs.

The irides are brown or yellowish brown; the bill, legs and feet a rich red.

THE PLATE, (although the execution is somewhat coarse,) is good; in fact, the best I have seen of this species.

$\frac{3}{4}$

PERDICULA BLEWITTI

THE EASTERN PAINTED BUSH-QUAIL.

—o—

Microperdix blewitti, *Hume.*

—o—

Vernacular Names.—[Sirsee-lawa, *Mandla, Bálaghát, Chánda ;*]

—o—

ILL defined as is the range of the Painted Bush-Quail, still more so is that of its eastern congener. This latter has been procured in Sirguja of Chota Nagpore, in the Raipur, Sambalpur, Bhandára, Bálaghát, Mandla, and Seoni districts of the Central Provinces, and the southern part of the Narsinghpur district, and it extends to the Denwa valley below the Pachmarhi hills and the Sâl forests of Delakhari.

"It is very abundant," writes Mr. R. Thompson, "in the Chánda district throughout the southern and eastern portions, in Sironcha and the Gódávari valley. It is found also in Bastar on all the larger nallas and rivers, and spreads up on to the Bela-Díla plateau, which has an elevation of 3,600 feet."

Mr. Ball also got it in the Bastar States, in Nawagarh and Kurial.

Nothing further absolutely is as yet known of its distribution, which, however, we may conclude to embrace the hilly tracts in the western portions of Chota Nagpore, and the eastern half of the Central Provinces, including the Feudatory States attached to the latter.

It is, of course, like its congener, an essentially Indian form.

I KNOW nothing of its habits, which we may presume to be precisely similar to those of its better known congener, but Mr. F. R. Blewitt, to whom I first owed specimens, and after whom I named it, writes to me about it as follows :—

"This really pretty Bush-Quail is extensively distributed throughout the forest tracts and scrub jungle bordering the various low hill ranges in the districts of Raipur and Bhandára, and more sparsely in similar localities in the south-western sections only of the Sambalpur district. I do not believe it exists in the other half, at least, my men and I never secured a specimen. It also affects, at certain seasons, grass patches and fields near hills or jungle.

"This Quail is invariably found associated in coveys of from four to a dozen, and even more. A bevy will, when suddenly alarmed, rise all together, but, owing to their softer plumage, with a less noisy whirr than the other Bush-Quails. Indeed, in its habits this species is identical with the others; if there is a difference, it is in the call notes, which, in *M. blewitti,* is more soft and melodious. When feeding, chiefly in the early mornings and evenings, they run actively about, diligently searching for and picking up seeds of sorts and insects. From the statements of the villagers and others, the period of nidification would appear to be from November to January. It was some time in the former month or December that my men brought certain Quail eggs, which they positively stated to be of this species, but *without* the parent bird. There is, however, this fact to be noticed, that very young birds were shot and snared in February and March in the Raipur district. This Bush-Quail is netted in great numbers in the cold and hot seasons. The flesh is very delicate and well flavoured."

Mr. R. Thompson says:—"It affects lands covered with tall grass on the banks of nallas and rivers. It occurs in small parties of six or seven, and when disturbed, the whole bevy rise *en masse,* all uttering a short piping note. The flight is vigorous and rapid, but not prolonged.

"The breeding season begins in June-July, shortly after the setting in of the rainy season. Young birds are on the wing in September.

"The male, during the season of courtship, utters a single loud note often repeated.

"In 1873-74, I kept several caged specimens, which soon became tame and made very pretty pets. The males are extremely pugnacious."

As IN the preceding species, so in the present one, the females average rather smaller than the males, but I shall not separate the dimensions of the sexes.

Length, 5·9 to 6·5; expanse, 9·7 to 10·5; wing, 2·8 to 3·15; tail from vent, 1·4 to 1·6; tarsus, 0·87 to 0·91; bill from gape, 0·5 to 0·6; weight, 1·85 ozs. to 2·3 ozs.

Irides brown; bill, legs and feet coral red.

THE PLATE is fair; it gives *some* idea of the difference in tone of plumage between this and the last species, but it totally misrepresents the colour of the legs, feet and bills, which are red (if anything brighter than in the other species), and it fails, partly owing to the positions chosen, to bring out sufficiently clearly the more striking differences between this and the southern bird.

In the first place, it represents the present bird as, if anything, *larger* than its congener, whereas, as the dimensions already given (compiled from numerous measurements of both sexes of both species recorded in the flesh) clearly prove, it is markedly smaller.

In the second place, it does not sufficiently bring out the differences in the plumage.

In the male, in this species, the black frontal band is *much* narrower, and the white band surmounting it broader, and there is altogether less black on the crown and sides of the occiput than in *erythrorhynchus*. The chestnut of the lower surface is much paler, and whereas in *erythrorhynchus* only the feathers of the upper breast and the sides of the lower breast are broadly fringed with greyish pink, and exhibit black subterminal spots, in *blewitti* this colouration extends over the entire breast and part of the upper abdomen, and the pinkish grey fringing is much broader and paler, and the black spotting more widely spread. The entire upper surface is paler and greyer, and whereas in *erythrorhynchus* the chin is broadly black, in *blewitti* there is at most only a trace of this, and in some specimens *no* trace.

The female is *everywhere*, above and below, paler and greyer than her congener; she has a *much* broader and paler rufous frontal band, and many more spots on the sides of the breast.

THESE TWO are the only known species of the genus by many still united with *Perdicula*; but these Painted Bush-Quails are certainly not congeneric with the other ones; the bills are slenderer, the tarsi exhibit no tubercles, the plumage is altogether softer, the note is widely different; and inappropriate, therefore, as Mr. Gould's name "*Microperdix*" is to an essentially Quail-like bird, I am obliged to accept it in accordance with the laws of priority.

F. Waller. Chromo [illegible]. 18. Hatton Garden. London

$\frac{2}{3}$ COTURNIX COMMUNIS

THE COMMON OR GREY QUAIL.

---o---

Coturnix communis, *Bonnaterre.*

---o---

Vernacular Names.—[Bhatér, Burra bhatér, Gagus bhatér, *Upper India;* Buttairo, Butteyra, *Sind;* Buttree, *Lower Bengal;* Soipol, *Manipur;* Botah Surrai, *Assam;* Lowa, *Ratnagiri;* Búr-ganja, Búr-ganji, Gúr-ganj, *Poona, Satara, &c.;* Búrli, *Belgaum;* Gogari-yellichi (Telegu); Peria-ka-deh (Tamil); Sipalé haki (Canarese), *Mysore;* Budina (Turki); Watwalak, *Kashgar* (common people.)]

---o---

THE Common Quail is found nearly all over the Indian Empire, except in Tenasserim, the very easternmost portions of Assam*, and Ceylon;† but it grows very rare towards the southern extremity of the Peninsula‡, and in the countries south-east§ of the mouths of the Ganges, Chittagong,|| Arakan¶ and Pegu,** can only, I think, be considered as a rare straggler.

Out of India it occurs in Beluchistan, Afghanistan, Persia, Arabia, in fact nearly the whole of Asia (excluding the more

---

* I have it from Sylhet, North-Eastern Cachar, and Shillong, and it has been procured at Chera Punji. Mr. S. Inglis says:—"This Quail is rather rare in Cachar. I have only seen it three or four times when out Snipe-shooting in October." Colonel Graham writes:—"The Common Quail I have seen in Goálpára, Kámrúp, Darrang, and Lakhimpûr; in all of these districts they are very rare; they are generally in pairs, and in a day you would not see over three brace at the outside. Towards Sadiya they do not occur."

† Mr. A. Whyte says:—"There is no authentic record up to date of the occurrence, in a wild state, of either *C. communis* or *coromandelica* in Ceylon; both have, however, been repeatedly liberated in the Cinnamon Gardens of Colombo, along with other Indian species. Whether any of these introduced birds still survive I cannot say, but certainly they have not multiplied, and you may safely assume that neither species is indigenous to the island."

‡ Writing from Mynall, Southern Travancore, Mr. Frank Bourdillon says:—"Quails about here are very scarce; one occasionally comes across a few in the low country, but in this part of the hills they are very rare, and I have never shot any. Their rarity here is, I suppose, due to the prevalence of heavy forest and the comparatively small amount of grass land and cultivation, for I am told that some 50 miles north on this same range (The Assambu Hills), where the country is more open, very pretty Quail-shooting may be had."

§ Even immediately west of these it is rare. Mr. Rainey says that to the Jessore district it is a rather rare cold weather visitant.

|| Mr. Fasson writes:—"The large Grey Quail does occur in Chittagong, but is rare."

¶ Blyth says it occurs in Arakan. I have not been able to verify this. He also says that it has occurred in Martaban, but I have had so many persons now collecting in Tenasserim for so many years, that I cannot accept this habitat.

** Where Blanford got it. Ramsay also got it in Karennee.

northern and inhospitable regions), except in Siam and the Malay Peninsula, to which, as likewise to Sumatra, Borneo, Java, the Phillippines, Celebes, and other islands, it is not known to extend. A somewhat differently plumaged race, not, I believe, entitled to specific separation, is found in Japan and Northern China. Whether the Common Quail has ever appeared in Cochin China or Tonquin, I do not know; it probably straggles to the latter and not to the former.

It is found throughout Europe (except in the extreme north), the islands of the Mediterranean, Africa, so far as we are acquainted with it, in suitable localities from Algiers to the Cape, and in the neighbouring islands, the Canaries, Azores, Cape de Verde, Mauritius and Madagascar.

IN INDIA, as elsewhere, the great bulk of the Quail are migratory, while a few here and there are apparently more or less resident and breed where they have spent the previous portions of the year.

Into India Quails migrate from the north, from Central Asia across the Himalayas, and from the west, from Persia, Beluchistan, &c.; besides these in Sind, Káthiáwár and Northern Guzerat, a few make their appearance, occasionally if not regularly, having crossed by sea from Arabia or Africa.

The Central Asian birds cross generally, I believe, during the first-half of September—the first Yarkand Expedition caught a specimen on the 24th of September at the Karatag Lake (just across the Karakorum, elevation 13,500 feet) that had obviously dropped out of one of the migrating flocks.

The birds that come from the west, both by land and sea, are rather earlier, and arrive generally during the last week or ten days of August.

In both cases I refer to the earlier waves of immigration, for in some seasons, doubtless owing to the want of food elsewhere, several such waves succeed each other, and in Kurrachee large flights have been known to arrive from seawards in November and December.

Arrived within our boundaries, while a certain number remain scattered about, some remaining in the lower ranges and valleys of the Himalayas up to an elevation of four or five thousand feet, the great bulk move southwards and eastwards, and arrive about the middle of October in districts like Furreedpore, Dacca Sylhet,* and about the end of that month in Poona,† Satara, and Belgaum.

---

* Mr. Cripps remarks:—"Common from the 15th October to the close of March They frequent crops of peas, millets, &c., also '*sun*' grass fields. In the early mornings, and again about an hour before sunset, they are scattered about the borders of the different crops they frequent, but during the day they are only found. in the patches of '*sun*' grass, and occasionally in the centre of the crops. I have seen them in the districts of Dacca, Furreedpore, Mymensingh, and Sylhet, and in

But both the time at which they arrive in any place and the numbers in which they come, and the distance to which they push southwards, depend upon the supply of food at their breeding homes and in the country intervening between these and the particular place in question.

In some years, to begin with, many more Quail, probably many *millions* more, visit India than in others. Again, as my friend Mr. Davidson remarks, "if they find sufficient provision in Upper India and Guzerat, the majority stay there, and comparatively few are seen in the south, while in years like 1878 (when the crops were deficient in the north) immense numbers come south."

In ordinary years in Upper India, when the kharif harvest is over and the birds have pretty well gleaned the stubbles, no large numbers of Quail are to be met with, except in particular localities. Enormous numbers are doubtless scattered over the length and breadth of this vast region, but five or six brace in a day would probably be as many as could be found ; while in bad years hardly a bird would be seen. The majority, in bad years nearly all, have gone south, and the more that leave Upper India, the more go south, and the further south they push.

As the wheat and barley and other spring crops begin to ripen, in Upper India, from the end of February onwards, the Quail begin to draw up northwards and westwards, and in years when they find less to retain them in Southern and Central India, they appear during March in Upper India in prodigious num-

---

none of them did they breed. My remarks apply to those four districts. They are found singly, in pairs, and small parties, and in no instance have I put up more than seven in a party. The natives of the above mentioned districts do not catch them in nets, as is done in other parts of India, but the Khasias of Sylhet casually noose them with horse-hair nooses. Ten brace in a day is the largest bag I have heard of in any of those districts."

† Mr. J. Davidson says :—" It is found abundantly in all the few districts in which I have been stationed—in the Pánch Mahális, Satara and Sholapur, in the Deccan, and Túmkúr, Mysore, but its numbers and time of arrival seem to depend entirely on the season. I have known Grey-Quail to remain in the Deccan till the beginning of May, and again, I have seen them there as early as the middle of October. In the Pánch Mahális I have seen them in the very beginning of October. I don't think any bred near Godra in the Panch Mahals in 1878, and I have never myself seen anything to make me believe that they breed in any of the districts I have been in."

Again, Mr. G. Vidal writes :—" In the Poona district, in the valleys of the Bhíma and Níra rivers, Grey Quail are, as a rule, plentiful, but the supply varies much from season to season. As long as there are crops such as *Sorghum*, *Gram*, *Túar (Urhur)*, oil seed, etc., they are to be found therein. When the 'rabi' or spring crops are reaped, towards the end of February, the Quail congregate in great numbers in the dry beds of the rivers, finding ample cover in the tamarisk bushes which grow luxuriantly there.

" The bulk of the birds appear to arrive early in November, and a few stay till late in April, but none, it would seem, remain to breed. In the Satara district Grey Quail are less common, but every three or four years a good season occurs in the Krishna valley.

" In Ratnagiri Grey Quail are very scarce, and are seldom found except in one or two localities, such as Chiplún and Khed, where there is a considerably area of alluvial soil sown with winter crops of Túar *(Cajanus indicus)* and Páota *(Dolichos sp)*. Large bags, however, are out of the question."

bers, far exceeding what are ever seen in the downwards migration,* because that occurs more or less in successive waves, while the return journey across the Himalayas is made more *en masse.*

But just as on the downwards journey some always remain in the north, so on the return journey a good many at times remain behind, at any rate for one or two months, in the south. Thus in the Deccan, long after the majority are luxuriating in our northern wheat fields, a good many Grey Quail may still be seen, say, in some years, to quite the end of April, or even to May. Here, of course, I am referring to birds that do finally migrate; a very few, no doubt, remain even in parts of the Deccan to breed, but certainly not, as Sykes† imagined, any large proportion of those that occur there during the cold season.

In connection with the fact that a small number are to be found breeding in many parts of Upper India, and occasionally one here and there in Central India and even the Deccan, the question arises,—are these birds the representatives of a permanently resident race? Do these *same* couples always remain to breed in India? Or are they accidental "remainders" of the migratory myriads?—birds that, either feeling unequal to the journey, or finding themselves in peculiarly delectable quarters, stop behind for that one season and that season only?

In Southern Spain the local sportsmen profess to recognize two distinct forms, the resident race *criollas*, lighter coloured and somewhat smaller, and the migratory race *castellanas*, which are larger and darker. In Eastern Turkestan there is a similar idea, and some people say there also that they can distinguish the birds that remain all the year round in the plains of Yarkand and those that migrate to India.

Is any thing of this kind observable in India? I think not. In the first place, as I shall show further on, all our birds in India appear to belong to one and the same race. In the second, so far as my experience and enquiries enable me to judge, our birds breed sporadically, sometimes here, sometimes there, whereas, if the *same* birds *always* remained to breed, they would breed year after year in the same place, which has not been the case in any one single instance that I have been able to investigate.

I, therefore, as at present advised, believe that in India generally, including the lower outer ranges of the Himalayas, we have no permanently resident race, only sporadic laggards, who, from one cause or another, remain behind to breed as an exceptional

* In many places in Northern India they pass through so rapidly that their arrival is hardly noticed in September.

† He says (Trans. Zool. Soc. II., p. 12) "I never found them congregated in numbers as if preparatory to emigration, and feel fully satisfied that the bird does not at any season quit any part of India I have been in—" *i.e.*, the Bombay Presidency, chiefly the Deccan. Every modern observer in this same locality utterly denies the correctness of this assertion.

case; and I am confirmed in this view by the fact that, in the only three cases within my knowledge in which the parent birds belonging to nests found in this country were carefully examined, one (in one case both) was found to bear shot-marks.

They migrate, I think, invariably by night, and probably in immense masses. On one moonlight night, about the third week in April, standing on the top of Benog,* a few miles from Mussooree, a dense cloud, many hundred yards in length and fifty yards I suppose in breadth, of small birds swept over me with the sound of a rushing wind. They were not, I believe, twenty yards above the level of my head, and their unmistakeable call was uttered by several of those nearest me as they passed. I have never seen or heard of any one who has seen them migrating by day. Over and over again have I found a place in the early morning, on several occasions my own compound (in which I had millets in autumn and wheat and barley in spring), *swarming* with Quail where none had been on the previous evening; and, *per contra*, a tract of stubble and half-cut wheat, where I had shot till my head ached one day, has (but for a few wounded birds) proved blank when examined next morning.

Although Quails move in flocks, they never, except immediately after the breeding season, keep in coveys as do the Bush-Quail. There may be thousands in a single field, but each rises, flies, and drops on his own account; and when Quail are scarce, at any time from November to the end of February, you will as often find a single bird as two, three or more in one place. In March, I think, they begin pairing, for in that month and April, if birds are scarce, you generally find two, four or six in any patch, not one or three or five.

They feed chiefly morning and evening, and may, if closely looked for, be at times caught sight of for a few moments bustling about, feeding in short stubbles, or thin low grass, or in amongst clumps of the dwarf jujube bushes. They run about stooping, picking here and there, now stopping to scratch, now, as some sound reaches them, standing straight up with up-stretched necks, and again, alarmed, gliding out of sight, almost like rats.

When they are in season, the millets are, I think, their chief food; but they eat all kinds of grain, grass-seeds, small fruits, like those of the "*Jharberi*," and all kinds of small insects, especially beetles, bugs, and ants.

During the middle of the day, particularly if the sun be hot, they rest somewhere in the shade, and are then so unwilling to rise that you may *almost* catch them by the hand, while dogs at times actually *do* pounce on them. But except during the heat of the day, although they are tame birds and allow a near

---

* Elevation I suppose 7,500 feet.

approach, and although they will, where the ground permits it, run a good deal, they are not usually difficult to flush the first or second time, but after having been twice raised, they are very unwilling to fly a third time.

No bird probably affords prettier shooting than do Quail in some seasons in many parts of Northern India. A hundred brace may be, and have been, bagged in a single day by one sportsman ; but using full charges, as I did in the days when I saw most of Quail, in the Meerut district, most men's heads are splitting from the continual firing before they have got much beyond half that number. With small charges, such as I have already described, (p. 119) it is impossible to say what bags might *not* be made.

The best time, of course, is when about three-fourths of the wheat and barley has been cut, the birds being then, at any rate from 7 A.M. to 5 P.M., massed in the still-standing patches. That the reapers are at work in these makes no difference ; they may be making any amount of noise, but ten yards from where they are cutting the Quail begin to rise, and thenceforward the whole field seems converted into a gigantic Gattling, discharging Quail in all directions *to the front* (they hardly ever come back upon you), until, just at the very margin of the crop, a final *feu de joie* bursts along the whole line.

The husbandmen do not mind one European or one or two natives walking carefully through the standing corn (and when Quail are *very* thick this is the best way of shooting them if you have good retrievers), but they do most strongly object to a dense line of native beaters trampling through their ripe crops ; and when the birds are only fairly plentiful, the best plan is to use a cord to beat with. You take a thin cord about two-tenths of an inch in diameter, and forty or fifty yards in length, and at every yard you insert a white feather through the strands. One man walks on each side of you at a distance of twenty or twenty-five yards, each holding one end of the cord, which they strain pretty tightly between them. You walk about a yard behind the cord, which just brushes the tops of the highest ears, and which, at each step they take, the holders flap down on to the corn. This does no harm (the rope must not *drag* along the field), makes little noise, and yet suffices to flush almost every bird. If, as is almost essential, you have good retrievers, and your men have kept *count* of each bird that fell, when you have completed shooting out the field your men, with the dogs, take up the running, and should recover every bird. Without dogs, Quail-shooting, excellent as it is, is most trying to the temper. If, when a bird falls, you allow a beater to rush to the spot, he probably flushes twenty others in recovering or trying to recover that one. If you allow none to be picked up until the line has passed, you lose certainly half your birds. In the first place falling rapidly right and left at every step

as they do, no human being can remember *where* the birds fell. In the second place, if not killed outright, Quail hide up in such a way (running freely into the rats' holes so common, at any rate in the Punjab) that no *man* can find them. With steady dogs put into the field as you leave it, and made to work in it until they have retrieved the full number counted, the sport is most satisfactory.

When flushed, Quail rarely fly far; in moderate-sized fields, especially during the hotter part of the day, fully half drop within fifty yards, and I do not think I ever saw a Quail, even one that had had two barrels fired at it, fly for more than three or four hundred yards.

Did any of my readers ever try Quail-shooting in good high ripe *Jowar* or *Bajera* well over their heads?

Capital sport it is! "Absurd"! you say; "why, how can you see the birds?" Very well indeed, as I will explain. First you look out for the *machan* whence the people watch the crops to keep off the birds, which is almost always at one edge of the field, and where that abuts on some barren plot or bare field intended for the spring crops. If this particular one is not so situated, you move on to one that is. Then you put your beaters—and they should be numerous and each have a stick—in at the opposite side of the field. Then you ascend the "*machan*," light a cigar, and, as the Walrus says to the Oysters, "admire the view."

In the meantime the beaters, if they know their trade, will beat very slowly through the field in a more or less semicircular order, the concavity towards the *machan*, not talking, but rustling vigorously about with their sticks at the bases of the dry stalks. Probably the first thing that distracts your attention from the surrounding scenery is a tremendous rush and a general hoorush (the best trained beaters are but men!), and, swiftly parting the waving stems, you see an old black buck coming at a headlong pace towards you, his nose straight in front of him, and his horns laid well back on his shoulders. You don't move (and even if you did, when he was close to you he would see nothing above him), but just as he emerges in the open, if not more than twenty-five yards distant, you roll him over with a buck shot or S. S. G. cartridge in the neck. If further and you have a rifle, it ought to come (though it sometimes *don't*) to the same thing. Then your Pathan, who has been crouching at the base of the *machan*, glides out and solemnly cuts that buck's throat in the name of the Almighty.

The beaters have by this time repented of their enthusiasm; they are dimly conscious that that "hoorush" may not be viewed in a favourable light, and that it would be well for them if the "Protector of the Poor" aloft (on the *machan* I mean) got a good many shots before they again interviewed him. As they advance, perhaps two or three greys, a whole brood of Pea-chicks,

or possibly a black or two (I mean Partridges, shooting the other kind *est expressément défendu*), and almost certainly a hare or two make their appearance, the former skimming along about the level of the *machan*, lovely cross shots (some of course, but not many with well trained beaters, out of range), the latter tippety tap, without the faintest conception of looking up, halting probably to listen with ears erect just outside the field, perhaps not five yards from the *machan*.

And now the flank beaters have got down to the edge of the field where your station is, and now the Quail begin to rise and whirr past, and nine out of ten birds will pass within shot if the thing has been properly managed. You are now in the warm corner, and the birds will rise much quicker than you can load and fire, unless you have a rule that at each shot every man halts and keeps *perfectly* still until you whistle. Even then, as the semicircle contracts, the Quail whirr up in threes and fours, and many will get past without running the gauntlet of your fire.

If, as often happens, there are a few scattered bushes here and there dotted over the fallow field, 5, 10, 15 yards away from the edge of the field, and you whistle a halt, get down and yourself walk through them, quietly, putting your foot into each, you will probably find that, despite the terrific fusilade you have been keeping up, almost every tiny patch contains one or more Quails.

I have thus occasionally killed over a dozen brace, besides other game, from one platform ; but even if you get only five or six brace all told, there is "a rapture of repose" about the arrangement, which I confess has always had many charms for me.

Colonel Tickell furnishes some excellent notes about this species. He says:—

"The Quail makes its appearance in India about the middle or third week in October,* when, in Bengal, the rice is still in the ear. It adheres to the paddy fields after the crops are cut, gleaning in the stubble for the grains left by the reapers, and when these are exhausted, repairs to the fields of pulse, vetch, &c. (urhur, chunna, moong, oorud, &c.), which are about that time ripe, and feeds on the peas that fall from the pods. When these are out, it still finds shelter in the weeds that grow at the feet of the urhur stalks, or hides in the tussocks of grass bordering the fields, or, in countries covered with much brushwood, it retires for concealment into the bér and ground sál thickets in the immediate vicinity of cultivation. The stay of this bird in Central India is but short, and by the end of January few are to be seen there.

"In such localities as have been above noticed, Quails at times abound to such a degree that shooting them is mere slaughter.

* Earlier of course in Northern India.—A. O. H.

Where birds get up at every step dogs or beaters are worse than useless, and where the game is so plentiful search after a wounded bird is seldom thought worth the trouble. It is usual to be provided with two or three guns,* to be loaded as fast as emptied by a servant. With one gun only it would be necessary to wash out the barrels two or three times in the course of the afternoon, or at all events to wait every now and then for them to cool. A tolerably good shot will bag fifty to sixty brace in about three hours, and knock down many others that are not found. I remember one day getting into a deyra, or island formed by alluvial deposit, in the Ganges, between Patna (Bankipore) and Sonepore, which was sown almost entirely over with gram (chunna), and which literally swarmed with Quail. I do not exaggerate when I say they were like locusts in number. Every step that brushed the covert sent off a number of them, so that I had to stand every now and then like a statue and employ my arms only, and that in a stealthy manner, for the purpose of loading and firing. A furtive scratch of the head, or a wipe of the heated brow, dismissed a whole 'bevy' into the next field; and, in fact, the *embarras de richesse* was nearly as bad as if there had been no birds at all.

"Quails are much more abundant in the Upper Provinces than in Central India or Bengal. In the Madras Presidency they become rare, and on the east of the Bay of Bengal are unknown.† In their migrations to and fro they make the Himála mountains a temporary resting place, and at such seasons I have seen astonishing numbers of them in the ripened rice fields of Kathmandu, in Nepal. Their stay there is very limited. At Darjeeling, where there was in 1842 little or no open ground, this bird was unknown; but I know not what may be the case now. It is not very plentiful either in the humid plains of the Terai, although in some of the higher parts of Tirhoot I have had tolerably good sport with them. In Chota Nagpore it is in some parts plentiful, and in others, apparently similar, not to be found. The cause of this seeming capriciousness we could never detect, although it was much inquired into by the sportsmen in Ranchee and Dorunda, the head quarters, civil and military, of that district. We used to remark that after the fields had been cleared of their crops, and shortly before the bird's departure to northern climes, it inhabited the bush jungle in common with the Black and Grey Partridges and the Bush and Button Quails. In such localities it finds shelter and concealment and food in various kinds of wild grasses, and is thus enabled to prolong its stay in India longer

* Refers to ante-Breech-loader days.—A. O. H.

† Except as stragglers to Arakan and Pegu, but Colonel Tickell was referring to Central Tenasserim, which he knew well, and to which, despite what Blyth says, I do not believe that they extend at all, though one *might* be shot there, just as one Likh *was* shot at Sandoway.—A. O. H.

than it could have done in the open cultivated country, where, after harvest, it would have found neither refuge nor sustenance.

"The Quail has a rapid, steady flight, flushing suddenly and with a tinkling whistle. Its course is near the ground, and as straight as a ruler; and when once in practice a fair shot will often go on knocking down eight or ten birds, one after the other, without a miss. It becomes, in fact, a mere knack, and should a Partridge or any more heavy flying bird rise in the interim, it is probable the best shot will miss it, the eye and hand having for the time become accustomed to the Quail only. It runs some way before rising, or until stopped by some obstacle, such as the little embankment of a field. This accounts for our occasionally flushing five or six at the end of a patch of stubble, when just about to step out of it, and after giving up hopes of a shot in that inclosure. It runs much also after alighting, so as not to be easily found after being marked down."

The Quail has several notes. One, *chiefly* (but not exclusively) heard in the spring, is the loud whistled dactylic call of the male, so well known in Europe that it has led to the birds being called "*dactylisonans*" by some ornithologists. It cannot be represented in words, but it is one long note rapidly followed by two short ones. Then there is the low, whistled chirping also, somewhat dactylic in its character, uttered by both sexes when feeding and at their ease.

Then there is the rather harsh, sharp alarm note that they commonly emit when suddenly flushed, and again a low purring sound that I have occasionally heard from them in quaileries.

With us, in India, these latter are great institutions. It is not only that a really well-fed Quail, properly kept and properly cooked in vine leaves, is in its own way unsurpassable; it is that, in the case of so many of us, large portions of our residence in India are passed in solitary spots where butcher's meat is unattainable in the hot weather, (it being too costly to kill a sheep, the rest of which would go bad before a single joint had been consumed), and where, but for the quailery (and some add a tealery), the everlasting *Murghi** would form the chief article of diet.

A quailery should be dark (or the males will be always fighting), light being let in at early morning, at noon, and towards sunset, and the birds fed *each* time. I always put a tiny trough of water in. The floor should be clean sand, but a fresh sod or two of turf should be put in each day. Below the roof, and distant from it six inches or so, should be stretched a soft loose cloth, so that the birds springing up on any alarm may

* I don't call these *things*, *chickens;* that name conveys an idea of something nice, and is redolent with savoury home reminiscences—they are the Indian *representatives* of chickens—dry, stringy, tasteless.

not hurt themselves. A quailery should be double, with a door to open between the compartments; each morning light is let into the empty half, and the door between the two chambers opened. The birds all scuttle into the lighted one. The door is closed, and the now empty chamber washed or brushed out clean for next day's use. The grain of the giant and bullrush millets *(Jowar, Bajera)* is the most suitable food, but this should be varied, a little lucerne, a few handsfull of white ants and their larva, being thrown in now and then. From the sods, also, the birds feed.

The place should be clean, as cool* as possible, and well ventilated. Precautions must be taken against rats by having the sides lined with masonry, and against snakes by spreading broken earthen pots *(gharras)* thickly on the ground for a yard or so round the place. No snake will cross this.

Quail *will* do fairly well, and a considerable proportion survive and keep pretty fat, in almost any sort of hutch, but it is always worth while to house and treat them properly, as you can then keep them right through the hot weather and rains, hardly a bird dying, and you will then know what Quail *can* become.

The males are very pugnacious, and amongst Muhammadans Quail-fighting is a favourite pastime; and in places like Lucknow, the bird-catchers hardly bring anything but females round for sale for the table. The females they will sell, even in a city like Lucknow, for from Rs. 2 to Rs. 2-8 a hundred, while males will sell for fancy prices, according to certain points which the amateurs in the sport profess to recognize.

In small stations, I have in old days often bought Quails, males and females together, for Re. 1 per hundred.

Many are captured in spring-side cages, such as have been already described (p. 125); many are caught with ordinary nets; but the most deadly method of capture, and one resorted to nearly all over those portions of India which Quail visit in numbers, is one well described by Mr. Sterndale† in his very charming work on sport in the Central Provinces.

He says:—

"It was on this trip I came across two queer specimens of humanity—a Quail-catcher and a snarer of Kingfishers.

"The former I met on a wild upland, whither I had gone in search of a blue bull. He was a little shrivelled-up man in scanty attire, with a bullock as dessicated in appearance as himself, a large flat basket to hold his birds, and a trap. I entered into conversation with him, and asked him if he could show me how he caught the birds, promising to buy all he could

* I always found it best to have all but the roof and about one foot of the sides underground.

† Mr. Laird has sent me a precisely similar account from Belgaum, and I have myself seen this mode of capture practised in many parts of Upper India.

catch there and then. It was late in the year for Quail, which are generally found in greater abundance in the early part of the cold season, but there were a few fields of millet in the neighbourhood, and there was a chance of getting a few birds. After hunting about for a time, my friend flushed a covey,* and marked where they alighted; then, making a *detour*, he proceeded to set his traps, which consisted of a series of rectangular frames, made of laths, about two feet long by one foot broad (a tightly stretched net occupying the interior of each frame) joined at the ends, and folding up like a long map. There were about a dozen of these frames, and the centre one had an aperture in the net large enough to admit a Partridge.

"With a few bamboo pegs the trapper soon arranged his apparatus in the form of a semicircular wall, and behind the hole in the centre frame he fastened a large net bag, propped up with a few sticks. This done, he ran back to the place from which he had started the birds, and began to work his bullock backwards and forwards, gradually, with each tack, nearing the hiding-place of the covey. Soon the little brown heads were to be seen popping up from the grass, and then, seeing that no immediate danger threatened, they edged off slowly, as the bullock came nearer and nearer. By a little judicious dodging, the trapper managed to get the birds within the sweep of his nets, and then he waited.

"The stupid little things toddled on and on, till they were stopped by the net, when they took off to the left, which was quite a wrong direction; so my friend, by a flank movement, headed them again, and turned them back towards the centre of the net. Now and then a silly bird would try and poke his head through the meshes of the net covering the frames, but none thought of hopping over. At last the leader came to the hole in the centre. Ah! here was a grand opportunity. In he popped, and in popped all the others, and my dusky teacher in the art of snaring rushed forward with a triumphant whoop, and tied up the mouth of the bag with all the struggling Quail inside."

Their capture with ordinary nets, as practised about Lucknow, is thus described by Mr. Reid:—

"Having selected the scene of his intended operations, generally a *dhal* field surrounded by wheat or other corn-fields, the trapper, towards evening, places his call-birds amongst the bushes, and allows them to remain there for the night. Very early next morning a net is placed over the *dhal* bushes at one end of the field, and, if long enough, is brought round the corners. Then, from the opposite ends, the birds are driven in the direction of the

* If this word is correctly used, then the particular birds operated on in this instance must, surely, have been Bush Quail. Grey Quail never, I believe, go in coveys in India.—A. O. H.

net, at first gently, but as the net is neared, vigorous and noisy beating is suddenly resorted to, and the frightened birds rush headlong into it. This is generally the method adopted by the professional Quail-catchers here, but amateurs and indigent Quail-fighters often catch male birds on their own account in trap cages containing call-birds."

Coming in such countless multitudes as Quail often do, not only mankind, but the "birds of the air and the beasts of the field" prey largely on them, and many species of raptorial birds, foxes, cats, mongooses, and the like, destroy numbers, the feathers of which are to be seen scattered about everywhere, when they are plentiful.

In some parts of the country they are hawked. I have never myself seen this, but Colonel Tickell thus describes this rather feeble sport:—

"In Singhbhoom, and in many parts of Central India, the Quail is hawked by the natives. I have frequently been present at this sport, which is tame but profitable. It is carried on entirely on foot. A drove of cattle is driven as nearly into a line as the unruly nature of the beasts will allow. The falconers, at about ten paces apart, form a line in front of the herd, and thus marshalled, the whole move slowly over the ground. The numerous feet of the cattle beat up every bird that may have been passed over by the men in front; and, as the Quail rises, the nearest falconer throws his hawk at it, just as if he were 'shying' a stone. One would suppose that by such rude treatment the hawk would simply be hurled to the ground and killed or seriously injured; but such an accident never occurs. It is inconceivable with what skill and quickness the little Raptor spreads out its tail and wings, glances along without touching the earth, and, without an instant's check, continues its headlong course till, in about thirty to fifty yards' flight, it clutches and pins the Quail, bearing it to the ground. Its owner then runs up, disengages the birds, smooths the Hawk's plumes, and grips him again ready for another flight, while the Quail is introduced to the game bag. Sometimes the former is allowed to taste a little of the quarry's blood or brains, just to keep up 'the interest of the thing.' The Hawks employed for this purpose are a species of Sparrow-Hawk *(Accipiter virgatus)*, vulgarly known as the 'besra,' and a nearly allied species *(Micronisus badius)*, the 'shickra' of the natives. They are not carried on the fist, as Falcons are when out in the field, but held in the hand. The wings and tail being carefully closed and smoothed, and the head of the little rapacious creature kept steadily to the front, it is hurled (as above stated) like a javelin at the game instead of being cast off as a Falcon is; and, should it miss or be unable to overtake the game, it perches quietly on a clod or stone till taken up, if an old thoroughly-broken-in bird, or flies off altogether, if not sufficiently reclaimed."

As already noticed, a very few of the migratory millions of Quails that visit India remain behind their companions and breed with us.

Where Quail are very numerous during the breeding season, there they are generally reputed to be polygamous ; but in India, where, except occasionally in the extreme north-west, they breed in small numbers, they are certainly, I think, monogamous. Moreover, I must say that, towards the end of their stay with us, I have always found the migrating birds, when not in too great numbers to prevent this being detected, also invariably in pairs.

I have records of the occurrence of nests in the Pesháwar, Lahore, Siálkot and Hánsi districts of the Punjab, in the Dehra Dún, Sahàranpur, Sháhjahánpur, Fatehgarh and Allahabad districts of the North-Western Provinces, in Purneah of Bengal, Jhánsi and Hoshangabad of the Central Provinces, and Satára of Bombay. In the extreme North-West they breed in some numbers, elsewhere nests are rare, growing more and more so as you travel south and east.

The nest appears to be here always placed upon the ground, amongst grass, and especially grass growing amongst low thorny bushes, such as the dwarf jujube. Out of India, in more temperate climes, they very commonly lay in wheat fields ; and I have found the nests in Norfolk in clover fields also ; but in India, except in the extreme North-West, all our crops are cut before they begin laying.

There is, as a rule, very little nest, merely a slight saucer-shaped depression in the soil scratched by the birds, occasionally quite bare, generally thinly, at times pretty thickly, lined with fine stems and blades of grass.

Ten eggs are the largest number that I know to have been found in India, and from several nests six and seven hard-set eggs have been taken. In Europe they are said to lay up to fourteen eggs.

They lay from about the middle of March to the end of April, according to season and situation.

I have only myself found a single nest of the Common Quail in India, and that was in April (29th) in the north of the Purneah district. The nest was a shallow saucer-like depression scratched by the bird and lined with a few blades of dry grass. It was placed in a tuft of grass and dwarf *Zizyphus* on a ridge separating two millet fields. The nest contained nine eggs absolutely in the act of hatching off. We caught the female on the nest, examined the eggs, found the points of the bills protruding in two, so put them carefully back, and replaced the mother gently on the nest, where she sat winking at us in a most unbecoming manner, but never attempting to leave the nest.

Captain Cock some years ago wrote to me that "the Common Quail bred most abundantly about Nowshera in

April 1872. I found several nests myself, and many more were brought in to me. The nests were invariably placed in standing corn, usually in a part of the field where the corn was less dense and high, and near some small bér bush, several of which might generally be found in each field. The nest was loosely made of a few dried corn leaves, and on these from seven to ten eggs would be found.

"I know little of the breeding habits of these Quail, and possibly their breeding in such numbers at Nowshera may have been exceptional. By the middle of May all the corn would be cut, and certainly the Common Quail is not found at Nowshera after the month of May. 1872 was in those parts an exceptionally backward year; the 24th of May was a cold, wet day, and the surrounding hills were white for some hours from the hail that fell on that date; hence we may perhaps presume that many Quail, which bred in the Pesháwar valley that year would have gone further north had the season been more favourable for their migration."

Writing from Lahore, Captain C. H. T. Marshall remarked: "I found a Quail's nest containing fresh eggs on April 14th. The nest was in the corner of a tobacco field. I saw the parent bird. The nest was only a hollow scraped in the ground at the root of a tobacco plant, with a few bits of dry grass in it. The eggs were eight in number, and were a dirty yellowish white covered with small and large dark umber brown blotches. I believe this is the first instance of a nest of this bird being noted in the Punjab. I fully believe that, could I have got a good searcher, I should have found several others. This nest was half a mile from my house."

Mr. William Blewitt says: "I only found one nest of this species, and that was in the Danah Beerh, near Hánsi, on the 25th March. Under a wild plum or *Zizyphus* bush a slight hollow had been scooped, and this had been lightly lined with leaves and straw. It contained three fresh eggs."

Captain G. F. L. Marshall remarks: "On the 25th March I obtained a nest of the Common Quail (*Coturnix communis*) at Allahabad. It contained six eggs nearly ready for hatching, and was situated, as described by Dr. Jerdon, on a little turf of grass in a field in the Ganges Kádar surrounded by a good deal of jungle."

The eggs are broad ovals, a good deal pointed towards one end. The ground colour is a clear yellowish or reddish buff, and they are thickly speckled and freckled, or more thinly spotted or blotched, with deep reddish brown or at times bluish black. The markings vary much in character and in intensity; some eggs are finely freckled and speckled all over; others have only a few large bold blotches accompanied by a few outlying spots and specks. They are only moderately glossy.

In length they vary from 1·1 to 1·26, and in breadth from 0·82 to 0·95; but the average of twenty eggs is 1·18 by 0·89.

ALTHOUGH I think that, while both sexes vary a good deal in size, the very largest birds are all females, and the very smallest males; and though probably these latter also average smaller than the females, still there is such a perfect gradation of size in both sexes, that it is only at the extreme ends of the scale that you could find a bird of one sex whose dimensions would not agree with those of some bird of the other sex. It seems useless, therefore, to give the dimensions of the two sexes separately.

Length, 7·1 to 8·62; expanse, 13·0 to 14·7; wing, 4·0 to 4·55; tail, 1·6 to 2·25; tarsus, 0·9 to 1·15; bill from gape, 0·6 to 0·73; weight, 3·2 ozs. to 4·62 ozs.

The irides are brown of varying shades, sometimes light, sometimes dark, sometimes hazel.

The legs and feet are pale fleshy, sometimes with a more or less strongly-marked brownish tinge, sometimes with a more or less decided yellow one; claws light to dusky horny, occasionally with purplish tint.

The bill is very variable, dusky or nearly black, greyish black at tip; dull pale bluish; brownish horny above, bluish below; horny brown, &c., are all colours that I have recorded from fresh specimens.

I have omitted to look into the question, but I am disposed to suspect that these marked variations in the colours of the soft parts will prove to be partly seasonal and partly due to nonage.

THE PLATE is a very fair representation of the ordinary Indian type of Quail, but it is a pity that the throat of the male, the portion of the plumage that varies most in this species, is so turned away that the characteristic markings of the form that occurs in India are not clearly shown.

Taking Quails throughout the three vast continents over which they occur, their plumage varies very greatly, and to some extent probably locally. Dresser says:—

"The variation in the colouration, and more especially in that of the throat, of the male Quail is very great, and has been remarked and commented on by many authors. One would certainly be inclined to separate it into two or three species, were it not that in a series of specimens the variation exhibited is so great as to make it impossible to draw the line anywhere. The ordinary form has the throat buffy white or rusty buff, encircled below by two semicircular bands of a rusty brown or dark brown colour, which join similarly-coloured lines down each side of the head; but one sees almost as frequently specimens with the throat partially or almost entirely covered with a blackish brown or rusty brown patch; and another extreme form has the

entire throat and sides of the head rich rusty red. This last form is but seldom seen in Northern and Central Europe; but I have seen examples from Southern Europe, and it appears to be the predominant form in the Azores, in the Cape Verde Islands, Mauritius, South Africa, China, and Japan: in some of these, however, there is more or less black on the throat. A specimen from Spain closely resembles examples from Japan in having the throat rusty red, but has the rest of the plumage rather duller in colour. Examples from the Azores are much smaller than the average of European examples, the wing measuring only 3·6 to 3·8 inches, and are rather more richly and brightly coloured; the throat is rusty red, in some without any black, whereas in others there is a small or large patch of blackish brown on the chin and throat.

"Specimens from the Cape Verde Islands closely resemble those from the Azores; and there is one from Mauritius in the British Museum which is very dark in general colouration and has a red throat. I possess three males from Port Elizabeth, South Africa, one of which has the throat pale rufous buff, one still lighter, and the third rich rufous—all three having the black on the throat much developed; and the breast is more rufous than in European examples, the upper parts being much darker. A male from Yarkand has the throat white, the two semicircular bands rusty brown, and a long blackish brown spot on the chin; and the upper parts are pale in colouration.

"Specimens from China and Japan have the sides of the face and the entire throat rich rusty red, with but seldom any trace of a black spot, and are a trifle smaller in size than the average of European birds; and this extreme form seems almost to be the only one found in Eastern Asia. I was at first inclined to treat this form as distinct, but I found examples from southern Europe, the Azores, and Mauritius precisely agreeing with others from China and Japan.

"Naumann cites all the above varieties as occurring in Germany, and says that those which have the throat and cheeks dark rusty brown are called 'Mohrenwachteln'; those which have the throat banded with dark brown on a white or a rusty yellowish ground are called 'Kreuzwachteln'; and those with the black patch on the throat 'Kohlhäne.' He also adds that there is great variation in size, some being larger and others smaller."

Though there are trifling variations in the extent of the markings and very noticeable differences in tint, some being everywhere paler, others darker and more rufous, still the great majority of our Quail belong to one type.

In the *male*, a band runs from the gape, under the eye, to just the base of the ear-coverts; immediately below this, a cross band starts, sweeping across the throat with a downward convexity; from the same point where the first starts, a second cross band also originates, which, running for less than a quarter

of an inch down the sides of the neck, sweeps across the base of the throat, nearly parallel to, and perhaps a quarter of an inch below, the first. This second band is at times imperfect in the middle of the throat. A broad band covers the chin, and extends down the centre of the throat until it meets the first cross band, a little beyond which it generally extends, very rarely reaching the lower cross band. This central throat band varies greatly in width, and in colour from greyish brown to almost black; the other bands, first mentioned, vary from a bright brownish rufous to blackish brown.

The *female* entirely wants the central throat band, and the first, or the upper transverse band, is wanting for nearly half an inch on the centre of the throat.

Below these bands, the breast in the *male* is spotless, and varies from pale buff, or buffy white, to a bright, but not deep rufous; all the feathers are pale shafted. The breast of the *female* is similar, but more or less profusely spotted with a darker or lighter brown, at times blackish.

In some birds, of both sexes, the abdomen is pure white, and at the other end of the scale birds are found with this part pale rufous buff.

On the upper surface some birds are very much darker and richer coloured than others.

The chin, throat and face, where unmarked, vary in both sexes from pure white to pale buff.

Now, although it results from these variations that any two birds, when compared, may appear very different, yet, when a really large series is examined (I speak, mind, merely of birds killed in India), it is perfectly manifest that there is only one race, and that every difference between individual birds can be bridged over by a dozen intermediate forms, running so closely one into the other, that it is impossible to draw a line of separation at any point.

The only fact that the study of an enormous series from all parts of India has enabled me to detect is, that the birds which arrive by sea in Southern Sind, &c., appear to be generally darker coloured than those which come from the north and west.

I do not find in my huge series a single old male (the young ones want it) which does not exhibit the central throat patch; nor have I a single specimen with the entire throat and sides of the head rich rusty red, as in the form that has been separated as *C. japonica*. Such *may* occur in India, but, if so, they must be rare, or they would necessarily have been represented in our series. All the Indian birds now before me seem to be what Naumann calls "*kohlhähne.*"

F Waller Chromo Lith. 18. Hatton Garden, London.

COTURNIX COROMANDELIEA

THE BLACK-BREASTED OR RAIN QUAIL.

———o———

Coturnix coromandelica, *Gmelin.*

———o———

Vernacular Names.—[(*Not generally distinguished by natives from the Grey Quail*). Butteyr, China Butteyr, *Upper India ;* Chánac, *Nepal ;* Butteyra, *Sind ;* Lawa, *Ratnagiri ;* Búrgunja, Búrgangi, Gúrgunji, *Deccan ;* Kade, (Tamil) ; Chinna Yellichi (Telegu) ; Sipale-huki (Canarese), *Mysore :* Ngon (Burmese), *Pegu.*]

———o———

THE Rain Quail extends at one season or another over the greater portion of the Empire, but its distribution has still to be accurately defined.

I can find no record of its occurrence in Ceylon or in the southernmost districts of the Peninsula, Tinnevelly, Madura, Travancore. Northwards of these it seems to occur almost everywhere in suitable localities up to the lower ranges of the Himalayas, to which, however, and to the northern portions of Bengal, Oudh, the greater portion of the North-Western Provinces and the Punjab, Sind, Western Rajputana, Cutch and Káthiáwár, it is almost exclusively a rainy-season visitant, though a few pairs may be found throughout the year in grassy spots sparsely dotted about the plains portions of these provinces.

I do not, however, know of its occurrence in the Punjab trans-Indus, or even in any part of the N.-W. Punjab. Again, it occurs pretty well throughout Lower Bengal, close to Calcutta itself, in Furreedpore, Dacca, Sylhet, and is common in the upper portion of Pegu, in the valley of the Irrawady, as at Thyetmyo, extending at times down to the sea, as at Bassein, whence I have specimens ; but it pretty certainly does not occur in Tenasserim.

I have no record of its having been found in Aracan, Tipperah, Cachar, or any part of the Assam valley or Assam hill ranges south of the Brahmaputra ; but, as I know it to be common in Chittagong, * it probably occurs in the two former, and possibly in all these.

* Mr. H. Fasson, writing from Chittagong, says:—" Mr. Martin tells me that the Rain Quail is very common here, and breeds during the rains in grass jungle and about the tea gardens. He found one day three nests within forty yards of each other in his tea garden, containing from four to eight eggs each. These birds get up in marshy lands and from rice fields as well as from grass jungle.

It is not as yet *known* to occur anywhere outside the Indian Empire, but it probably occurs in the valley of the Irrawady, north of our Frontier, far into Independent Burmah; and, though neither Swinhoe nor David and Oustalet admit it in their lists of the Birds of China, a specimen from that country is noticed, Blyth says, in the report accompanying the narrative of Commodore Perry's expedition. Possibly there is some mistake about this.

ALTHOUGH in many districts, especially in the Deccan and Central India, the Rain Quail, while changing its feeding grounds and haunts as the seasons revolve, is in normal years a permanent resident, yet throughout the major portion of its range the great majority are only seasonal residents, spending the drier months of the year in the low-lying and moist tracts of Lower Bengal and other provinces, and the monsoon in the higher, drier regions of Upper and Western India.

In the Punjab, in the N.-W. Provinces north of the Jumna, in Oudh and Behar, in Western Rajputana, Sind, Cutch and Káthiáwár, it is not until the rains are just about to commence, often not till they have set in, that we ever see more than a straggler. It is only at this time, or late in the hot weather when some showers have fallen there, that this species finds its way to the valley of Nepal and other similar places in the Eastern and Central Himalayas up to elevations of four to six thousand feet. Except at this season, the Rain Quail is normally a bird of the plains, not ascending the hills anywhere, though a few stragglers may be killed on patches of burnt, freshly springing grass on the Nílgiris, up to at least 6,000 feet, as at Neddiwutum in May, after the April showers.

This species is habitually met with in pairs from April to October, and singly during the cold season. Just after the young are able to fly they may be seen in families, but at other times, though many may be flushed in the same patch, they all rise and fly independently, and cannot ever be said to occur between December and July in coveys.

Their general appearance and flight so closely resembles that of the Grey Quail, that, except for their smaller size, it would be impossible to distinguish them on the wing. Their habits too are very similar, but the present species, on the whole, is more of a grass bird than the Grey Quail, and feeds more on grass seeds; and, though of course often found in millet and other crops, is less exclusively devoted to these, and feeds less on grain, than its cosmopolitan congener.

The call, however, is quite distinct; it is a *double* (*not* tri-syllabic) whistled note, louder and rounder than that of the Common Quail. It may be heard at all times of the year, but it is only sporadically that they call, except during the breeding season, and then their cheery call resounds on all sides from long before

dawn in the morning until the sun is high ; and then again from an hour or so before sunset until late in the evening ; during cloudy and showery weather they go to rest earlier and awake later, but then they call almost throughout the day.

They are familiar birds, crowding into compounds, churchyards, and all enclosures about stations where there is a little long grass, and coming out morning and evening shyly to pick about the paths and roads, ready at the slightest alarm to glide noiselessly, but rapidly, into their grassy shelter.

Their chief staple of food is, I think, grass seeds, but they eat also all kinds of grain and lentils, and many insects, especially termites. I remember shooting one that had eaten several of the scarlet velvet mite (*Trombidium tinctorum*, or some such name) that appears so commonly at the commencement of the rains—a thing that rather startled me, as I have noticed that birds generally avoid these gorgeous morsels.

They are not at all forest birds, and are consequently entirely wanting over large areas where the primeval forest still survives unmolested, save for the tiny clearings of aboriginal tribes. They cannot endure excessive moisture ; they love open, moderately-dry, grassy lands, and in tracts like the low sea board of the Southern Concan and the Malabar Coast, they do not, I believe, breed, and only occur as somewhat rare winter visitants.

Mr. J. Davidson writes to me that—" the Rain Quail is very common in the Deccan, and is a permanent resident, though it wanders about a good deal in search of water, food and shelter. Thus, while in November or December this Quail will be found scattered about singly or in pairs everywhere, in the hot weather hundreds will be found collected in a few nallas and gardens, and the most careful beating will fail to flush a single bird elsewhere for miles and miles. Moreover, it deserts its most favourite haunts at once if food begins to run short. In 1876, when the rains failed in Sholapur, and the ground was as bleak and uncultivated as in the hot weather, I never saw a single bird. Nor did they return till about June 1877.

" In Túmkúr, Mysore, in the middle of November, they simply swarmed. They were then in pairs, and commenced calling hours before daylight, and in one camp positively kept me awake from four in the morning. I was very busy, and had no time to look for nests ; but I never started any young ones. They afterwards collected in the scrub jungle, where some of the flocks were very large, and they were still there in the middle of May. During June and July, before leaving Mysore, I was working in a jungle country, so can hardly say whether they migrated or not, but I certainly never saw one in these months."

Mr. Reid remarks :—" The Rain Quail is a scarce bird in the Lucknow division until the rains set in, when, however, it becomes even more abundant than I have ever known the Grey

Quail to be here. Bird-catchers then bring them into the market literally in myriads, and sell them at from Rs. 1-8 to 2-0 per hundred. Like the males of the Common Quail, those of this species are greatly prized for fighting, being just as pugnacious. They are generally taken in nets, in the same way as the Common Quail."

Indeed, all over the country they are caught in just the same manner as the Grey Quail, and, conspicuously different as the great black patch on the breast renders the male, the two species are commonly confounded even by some of those who make their capture a profession.

Rain Quail afford just as pretty shooting as the Common Quail when they are numerous ; indeed, as they run less and fly rather faster, they yield perhaps better sport ; but I have never known it possible to make such huge bags of these as one can of the other. In Upper India, during the winter and spring, you are pretty sure to pick up a brace or two along with the Grey Quail (with which they seem to associate on friendly terms) when shooting this latter ; but I never knew more than five brace killed at this season in a day by one gun. But just when they first appear in the Doab in June or July, according as the rains are early or late, you may manage by hard work to get from twenty to thirty brace in a day if you have steady dogs and there is plenty of grass about from two to three feet in height, or if, as is the case in some districts, there are a good many fields of the dwarf early rain millets.

Colonel Sykes asserts (Tr. Z. S., II., 15) that the flesh of this species is *brown*, that of the Common Quail being of course white. Many as I have eaten, I am ashamed to say that I have never noticed whether this is or is not a fact, though I distinctly remember that they were never so fat and never such good eating as the Common Quail.

THERE IS no doubt, I think, that the Rain Quail is monogamous. From April they are always found in pairs, and both birds may always be flushed near a nest ; and whilst the hen is sitting, the male is perpetually calling to her.

More birds, I believe, breed in the Deccan, Guzerat and Central India, and parts of the Central Provinces than elsewhere in India ; but though comparatively thinly scattered about the country after their first arrival, they do breed in suitable localities throughout those provinces to which I have already indicated that they are monsoon visitants. But as breeding haunts they always select tracts abounding in grass, by preference grass of the finer kinds that only grows to the height of two or three feet, and more especially grass dotted about with thorny shrubs. In the highly cultivated alluvial plains of the Doab and parts of Behar, Oudh, and the North-Western Provinces, few remain to breed ; the

great majority, after a few days' halt, passing on northwards to more congenial localities in the drier portions of the Terais and Dúns and the lower ranges of the Himalayas.

In Nepal they lay early in June ; in the Dún and the Kangra Valley, in the only two instances of which I have a record, at quite the close of that month ; in various localities in Northern Behar, the North-Western Provinces, Oudh and the Punjab in all July ; in Sind, Guzerat, Central India, and the Deccan in August and September ; and in the latter, at any rate in some years, until late in November.

The nest is always on the ground, almost invariably in the midst of standing crops or of moderately thin and moderately high grass—a small depression in the soil, at times natural, more often scratched by the birds, usually thinly lined with grass, sometimes quite bare, and occasionally containing a regularly made, though scanty, circular grass nest.

Nine appears to be the full complement of the eggs, though as few as four are occasionally found more or less incubated, and the bird clearly does not commence sitting until she has laid the whole clutch. Sometimes apparently two hens lay in the same nest.

From Sholapur, Mr. Wenden writes :—" It was on the 28th July this year that I received my first warning that it was time to discontinue shooting these birds. On that day many of those we shot had well-developed eggs in them. For a week or so before this, the bird had been calling vigorously, evident signs of pairing.

" On the 4th August I found and took a nest with four eggs.
On the 7th „ „ „ one with six and another with the same number.
On the 12th „ „ „ one with five.
On the 14th „ „ „ one with six, hard-set.
On the 25th September „ „ one with nine, showing signs of incubation.

" On the 9th of August I found a single egg, not in, but close by, the nest from which I took six eggs on the 7th, and it struck me that the bird may have been about to lay it when I flushed her from the nest (on the 7th) and dropped it as she rose, or, on returning and finding her eggs gone, had deposited it where found. All the eggs I found were deposited in hollows in the ground (some of them like the imprint of a cow's foot, others so slight as to be almost unobservable), without any lining whatever. The only case in which I noticed any pretence to a nest was on the 12th August, when I found five eggs in a cucumber field. The bird had scraped a hole in a mass of decayed leaves. I noticed many nests besides those which I took ; they were all of the same type, most of them in Jowari or Bajri fields ; some few in grass,—most of them close under the plants or a bush, some of them in the bare open.

"In every case where I had an opportunity of watching the nests the eggs were laid daily.

"The birds sit very close when hatching. I have watched several, and on two occasions attempted to cover the sitting bird with my hat. I have never seen a male bird on the nest or near the hen, but from the persistent way in which the males call and the females answer I concluded that the male never went far away from the nest. I consider that the breeding-time may be fixed as beginning on the 1st of August and ending on the 15th of October.

"Many of this year's birds were on the wing by the 20th of September—at any rate that is the first day upon which I noticed any.

"I noticed many nests in which the eggs of Quail had been destroyed by snakes, lizards, or field mice, most probably the latter I think.

"I never myself found a nest containing more than nine eggs.

"Four is the smallest number of incubated eggs observed."

Mr. Davidson remarks:—"The Rain Quail breeds in great numbers round Sholapur, and any number of eggs could be easily obtained there.

"I obtained various nests; amongst others—

One brought to me on the 9th August, contained five eggs.
One brought to me on the 12th August, contained four.
One taken by myself on the 13th August, contained six.
One brought in to me on the 18th August, contained eight.
One taken by myself on the 18th August, contained eleven.
(*All the eggs of all these nests were fresh.*)

"In the case of the last, I shot the cock bird within ten yards of the nest, but he did not rise directly off the eggs, as I was stooping to pick them up when he rose; the hen did not rise, though, on beating about with only two men, several birds of the same species were flushed within two hundred yards. The eggs in this last nest belong to such very different types that I am almost sure they must have been laid by different hens. And I can only account for it on the supposition that in a place like this, where great numbers are breeding close together, two hens may (as I have often known Partridges and Pheasants to do) lay in the same nest. In this case there were nine of the darker type and two of the lighter in the nest.

"This is further rendered more likely by the fact that the native fowlers I was employing informed me of a nest containing seventeen eggs. I rode out next morning, not being able to get out so far (five miles) at once, and was much disgusted to find all the eggs, *eighteen* in number, broken; they belonged in about equal proportions to the two darkest types of eggs. It is possible that the fowlers, who are frightful liars, might have put them there; but I do not think so, as I promised them a rupee

a nest with the bird sitting on it. As the nest was distinctly a Quail's, I think their putting additional eggs in out of some other Quail's nest very unlikely, as by that they simply got the reward for one nest, instead of two.

"One thing about these Quails I noticed was the enormous number of nests that are destroyed. I hardly ever walked out without discovering broken eggs lying about; but what animal was the culprit I never could be sure, though I suspect the Common Crow Pheasant and a large lizard are generally the offenders.

"The nests were of the most rudimentary description, a slight hollow with a few blades of grass or Jowari laid in it formed the whole concern, and in some cases even this was wanting, and the eggs were laid in a hollow in the bare ground.

"The first eggs I obtained were two nests on the 9th August containing five and eight fresh eggs respectively.

"The last, also containing five fresh eggs, was obtained on the 2nd October, but this was probably owing to a former nest being destroyed."

"Since the above was written I have found them breeding in the Deccan from the first week of August until late in November, according as the monsoons were late or early, full or scant. In the Pánch Mahâls they bred early in August in 1878, and I saw young birds about in the beginning of September."

Captain Butler again says:—"I found nests of the Rain Quail at Deesa on the following dates, 1876:—

August	5th	a nest	containing	6	fresh	eggs.
"	6th	"	"	7	"	"
"	10th	"	"	9	"	"
"	13th	"	"	6	"	"
"	17th	"	"	9	"	"
"	17th	"	"	5	"	"
"	18th	"	"	6	"	"
"	19th	"	"	7	"	"

"In addition to these nests, I saw several others in September. All of the above were in grass preserves, and consisted of a slight depression in the ground scratched by the birds themselves, with, in some instances, a scanty lining of short pieces of dry grass."

The eggs of this species are excessively variable both in colour and size, but I observe that all the eggs of one clutch are, in the vast majority of cases, not only similar in shape and type of colouration, but also very uniform in size. So much so is this the case that I mixed up eight clutches (every egg dated), and then without once referring to the dates picked out each clutch merely by the look of the eggs without a single mistake. No doubt in some few clutches one, two, or more eggs of a different type to that of the rest, do occur. These, I believe, must have been laid by other birds and not by the hen to which the nest belonged.

They are excessively prolific layers, and I suspect not unfrequently, when anything has happened to their own nests, lay in any other nest that happens to come handy.

The eggs vary in shape from rather broad ovals, obtuse at both ends, only slightly compressed towards the smaller end, to somewhat more lengthened forms, rather conspicuously pointed towards this end.

The shell is rather fine and smooth, with, in some cases, only a very faint gloss, but usually a tolerable amount of "shine."

The colouration is so variable that it is difficult to describe. The ground varies from a faintly yellowish white, to rich *café au lait* colour, and in one clutch of nine eggs taken on the 25th of September, possibly the second laying of an exhausted bird, has a strong ferruginous tinge throughout, as of dried blood.

The markings are of three types,—(*1st*) fine specklings and spottings thickly spread over the whole surface of the egg: many eggs of this type strongly recall those of our several species of *Turnix; (2nd)* bold blotchings and frecklings: some eggs of this type resemble much those of the Common Quail; (*3rd*) marblings, not unlike what are sometimes exhibited in the eggs of Sand Grouse. This third type is perhaps the commonest.

In colour the markings equally vary; blackish, purplish, olive, and burnt sienna brown, all occur; but each egg exhibits only one shade. With one exception, the ground also seems to be always uniform, but in the speckly types, where the markings are purplish brown, and the ground is pale, large patches of this are suffused with a pinkish purple tinge.

Typically the markings are closely set, but in some few specimens this is not the case. How much these eggs vary may be judged from the fact that, to convey anything like an adequate idea of the series now before me, it would be necessary to figure at least nine examples, and yet there is not one amongst them that (now that I really know the egg) could be confounded with that of any of our other birds.

In length the eggs vary from 1·0 to 1·21, and in breadth from 0·8 to 0·89, but the average of fifty-six eggs that I have carefully measured is 1·09 by rather more than 0·83.

BOTH SEXES vary a good deal in size, but in a large series of measurements I can detect no constant difference in this respect between them, nor anything to lead me to suppose that, as in the case of the Common Quail, the females average larger than the males.

Length, 6·5 to 7·25; expanse, 10·83 to 12·12; wing, 3·43 to 3·7; tail from vent, 1·2 to 1·56; tarsus, 0·9 to 1·0; bill from gape, 0·5 to 0·6; weight, 2·2 to 3·0 ozs.

Irides clear to dark brown; legs and feet pale fleshy, in some greyish, in some with a yellowish tinge; bill, in the male, bluish black to dusky, paler at the base below, in the female brownish horny above, bluish horny below.

THE PLATE is, I think, extremely good, though the bill of the female should be lighter coloured.

This species, as the dimensions already recorded will clearly show, is altogether smaller than the Grey Quail, and the male of the former, with the huge black patch on the breast (which, however, varies with age, younger birds not having it nearly so large as had the fine old bird figured)*, can never be confounded with that of the Common Quail. But the females are more alike, and it is well to bear in mind that, whereas in the Common Quail the second and succeeding quill feathers are conspicuously barred on their outer webs with light rufous, these feathers are in the Rain Quail unbarred.

BESIDES THESE two species of *Coturnix* which we meet with in India, Africa (*C. delegorguei*), Australia (*C. pectoralis*), and New Zealand (*C. novæzelandiæ*) have each a species peculiar to themselves.

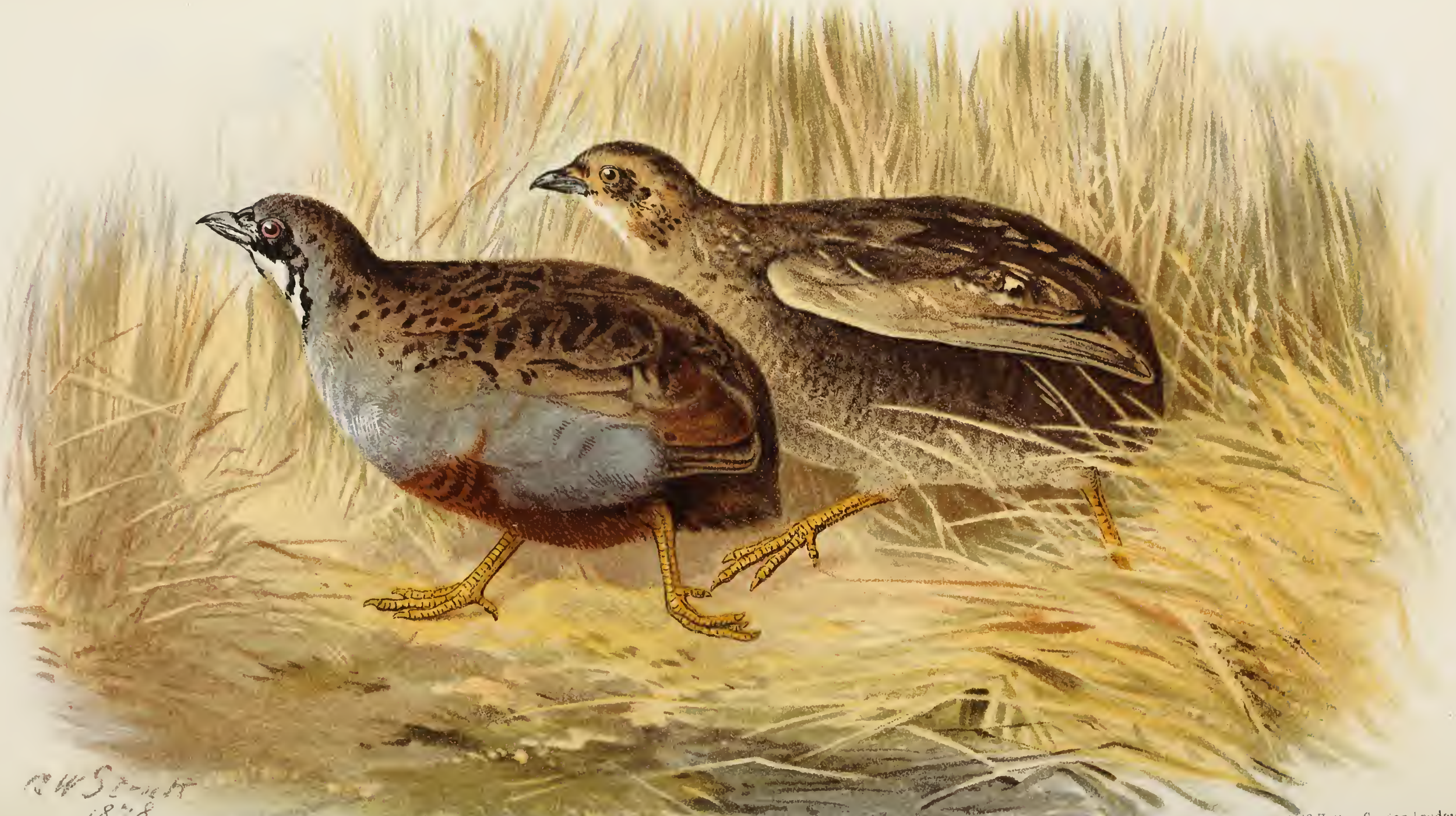
---

* Tickell says, in a passage which I quote below (and which, it must be understood, applies to Eastern Chota Nagpore and not to Upper India), *that the males want the black on the breast in the cold weather.* Can this be correct? It is not invariably so, certainly, as I have specimens killed in December and February showing the black distinctly. But I have an impression that I used to notice that in the winter the black on the breasts of the males was less in extent and duller in tint.

"In the cold weather it wants the black colour of the breast, and is then so like the ordinary Quail that both species are shot and popped into the game bag without distinction. Then comes the burning month of March, when the Common Quails have departed. save here and there a weakly lingerer. During that month and April and part of May, not a Quail is to be seen or heard; but soon after the 'chota bursat' (the little rains) have poured their delicious freshness on the parched soil and the tender green of the jungle grass smiles out from the burnt ground, the pretty tinkling notes of the Rain Quail are heard all around—'whit-whit,' 'whit-whit,' 'whit-whit,' and throughout the monsoon these birds are found scattered about the paddy and wheat fields, and entering our gardens and compounds, where of a morning they may be seen running along the paths."

Mr. Vidal, writing on this subject, says:—"Next about Rain Quail; Davidson says —'I think in the rains the cock has a blacker breast than in the cold weather, and is also redder on the sides of the neck; he however never loses the black. Some of the young of course have very little.'

"My experience, such as it is, agrees with Davidson's. The black, I have always thought, seemed deeper in the rains and in larger blotches, though never altogether wanting, in the cold weather."



lith. 13. Hatton Garden. London.

$\frac{3}{4}$

EXCALFACTORIA SINENSIS

THE BLUE-BREASTED OR PAINTED QUAIL.

——o——

Excalfactoria chinensis, *Linné.*

——o——

Vernacular Names.—[Khair-butai, Kaneli, *Nepal*; Burli (Mahrathi); Ngon (Burmese), *Pegu*; Peeyoo, Pea-kow, Pikau (Malay);]

——o——

VERY little is known of the distribution of this lovely species in India.

In Ceylon it is fairly common, especially towards the south of the island.

Then although it doubtless must occur in suitable localities there, I have no single record of its occurrence anywhere in the southernmost portion of the Peninsula. But Jerdon tells us he once killed it in the Carnatic—a very wide and vague term—and Mr. Laird writes to me that there is a place about ten miles south of Belgaum on the Dhawar road where he has procured it.

North of this, I do not know of its occurring anywhere in the western-half of India. On the eastern side it occurs in Raïpur, and Mr. R. Thompson writes:—"I have found it in Mandla and Bálaghát, and as far south as the Gódávari Valley, below Bhadráchalam. I also met with it in suitable localities in Bastar. In the Chánda district I have found it chiefly in the valley of the Wainganga."

It is also recorded from the Tributary Mahál, Singhbhoom and Manbhoom. Then, eastwards again it is common in the cold season about Calcutta and Dacca,* but I believe leaves both these localities during the rainy season. It is found in Sylhet, Cachar†, in the Khásia Hills, and again north of the Brahma-

* Its distribution would appear most capricious, though doubtless, when we know more about it, it will seem less so. Although common in the 24-Pergunnahs, Mr. Rainey assures me, on the strength of his own long experience and that of two other sportsmen who shoot all over the district, that it does not occur at all in Jessore.

† "The Painted Quail," writes Mr. J. Inglis, "is extremely common in Cachar where it remains throughout the year and breeds.

"It frequents thin grass lands, and is often met with around the edges of jungle. When flushed, it generally flies into thick cover, and it is very difficult to induce again to take wing.

"In March and April they seem to go more into open land, and at that time a good number may be shot without the aid of dogs. In thickish grass this little Quail tries the temper of a dog severely. I have seen a dog follow them foot by foot for 50 yards before they would rise, and I dare say the dog's nose was within a yard of them the whole time."

putra, in the Daphla Hills, and apparently right up the valley of Assam as I have several specimens procured at Sadiya. Westward it, occurs, but only I think as a monsoon visitant, in Maldah, Purneah, Northern Tirhoot, the Valley of Nepal, Basti, Gorakhpur, the northern portions of Oudh (a few being found even in the Lucknow Division), the northern portions of Rohilkhand, the lower ranges of Kumaun and Garhwál, the Dún, ascending to nearly the elevation of Mussooree, and the outer ranges of the Himalayas almost as far west as Simla.

In India Proper I have no further record of its occurrence. Blyth says it occurs in Aracan, and it very probably does so, but I have no record of the fact.

Of Pegu, Mr. Oates writes:—"The Blue-Breasted Quail is distributed during the season over the whole of the plains of the Pegu Province. About the 1st May immense numbers arrive and spread themselves over the country. At first the sexes remain in separate bevies, but by June the pairing commences. After the breeding season, the majority, if not the whole, of the birds disappear. Some few may remain during the dry weather, but I am not sure of this. They like luxuriant grass growing in swampy plains, and numbers are flushed on the bunds of the paddy fields when the sportsman is after snipe."

In Tenasserim, where it has been said to be generally distributed, we have only met with it in the extreme south, and even there it was by no means common.

No one else seems to have procured it in this province, and Colonel Tickell distinctly says he never saw it in Burma, meaning thereby Central Tenasserim, with which alone he was familiarly acquainted.

Southward from Tenasserim it extends throughout the western portion, at any rate, of the Malay Peninsula, being extremely numerous in some localities, as about Klang, in the Salangore Territory. It occurs equally in Sumatra, Borneo and Java, and in Southern China, Formosa and Hainan. There is no record, so far as I know, of the fact, but it must also extend to Independent Burma and Siam.

This same species, or an extremely closely-allied form (separated as *E. minima* by Gould), doubtfully entitled to specific rank, occurs in Celebes, and it is probably this same slightly smaller form that is found in the Philippines.

Another extremely closely-allied species (if indeed it be entitled to specific separation),separated by Gould as *E. australis*, is found in suitable localities over the greater part of Australia. Lastly, I understand that another barely separable race has been found in New Guinea.

I should be disposed to unite all these forms, and define the range of the species roughly by lines running from Simla to Formosa, Formosa to East Australia, along Southern Australia to Ceylon, and thence back to Simla, noting that this species

eschews the smaller islands, arid or elevated tracts above, say 5,000 feet, and is only common in low-lying, moist, or swampy grass-covered lands.

I HAVE already noticed that to the whole of the Sub-Himalayan tracts and lower ranges west of the Ganges the Painted Quail is, as a rule, a rainy-season visitant; but I should add that a few birds, perhaps mere stragglers, remain throughout the year in the Dúns and Terais that skirt the bases of these portions of the Himalayas, and that throughout the valley of Assam they seem to be permanent residents, a certain proportion perhaps migrating to the adjacent hills during the rainy season. In Cachar they are to some extent, and on the southern faces of the Gáro and Khásia Hills, they appear to be chiefly, if not entirely, monsoon visitants, while in the neighbourhood of Calcutta, Dacca, &c., they are rare, except during the winter and spring.

I have always, except in the autumn, met with this species singly or in pairs. You may at times find a considerable number in the same patch of grass; but they are always as independent of each other as are similar aggregations of the Common Quail, and I totally disbelieve Latham's story of their going about in Sumatra in "flocks of a hundred birds," or in any sort of flocks or coveys except just after the breeding season, when the two old birds, with their four to six young ones, *do* keep in a covey.

Open, swampy grassy lands or meadows, are their favourite haunts, and I doubt whether they are ever found far from such. They will, doubtless, wander into low bush jungle, the edges of low standing crops, and, as Jerdon says, into patches of grass along the sides of roads; but this is almost exclusively when feeding in the early mornings and evenings, or when their meadow homes have been suddenly flooded.

They come freely into the open when feeding, and in the early mornings may be seen gliding along by the sides of roads and paths, picking about and scratching here and there; taking little notice of passengers, and either running on before them if not pressed, or just hiding up in the nearest tuft of grass, to emerge again as soon as the traveller has got ten or fifteen yards beyond their hiding-place.

Their call is a very low, soft, double-whistled note, comparatively rarely heard except when a pair has been separated; then, indeed, almost the moment the male has lit he begins calling to his mate. They feed quite silently, and if they have *seen* and are expecting you, rise quite silently also; but both sexes, if suddenly alarmed, and females when startled from their nests, rise with a low, shrill, rapidly-repeated chirp, "*tchi, tchi, tchi.*" Their flight is very fast, straight and low, rarely more than a foot above the tops of the grass, and is continued for from fifty to seventy yards, affording an excellent shot. Indeed they fly so

fast, that in places where they are abundant they must, I should think, afford excellent sport. Always, be it understood, if you have small dogs to flush them, for without dogs, though you may or may not be able to start them once, you will certainly not succeed in putting them up a second time.

They feed chiefly on grass seeds ; very little, so far as my experience goes, on either grain or insects, though they do undoubtedly eat both of these. But I have always found them in meadows, where there was but little cultivation in the neighbourhood, and perhaps, when they occur where millet fields are common, they may, as I have been told, feed equally on these small grains.

Mr. Davison has recently been shooting great numbers of this species in the Malay Peninsula, and his experiences, as recorded in the following note, tally closely with mine, derived from observations in Lower Bengal. He says :—"This species occurs commonly throughout the western-half of the Malay Peninsula, but it is specially abundant about Klang, in the state of Salangore.

"I found that the adult birds kept in pairs, and when more than two were found together, they consisted, as a rule, of the parent birds and the covey of young. When flushed, they rise singly and fly without reference to each other.

"They frequent, as a rule, grass land, especially where this is rather swampy. I have on a few occasions flushed and shot them in gardens, but, unlike *Turnix plumbipes* (which might be termed the Garden Quail *par excellence*), they much prefer wild grass-covered land and scrub jungle, when the undergrowth of this latter consists of grass, to any gardens.

"In the morning and evening they are very fond of coming out on to roads and other open and clear places.

"They are, I think, very silent birds, and are seldom heard calling, even during the breeding season, except when the pair have been separated, when one or other (the male usually) commences calling, and is at once answered by the other. The call is a low soft whistle which may be approximately syllablised as '*Pi-oo*' (whence the Malay name).

"After having once risen they are very difficult to flush a second time without the aid of dogs, but they do not run nearly so much as *Turnix* does, and after alighting (and running a few paces or not as the case may be), they squat, and are so reluctant to move that I have often seen them caught by a small terrier that I used, to flush them.

"Though by no means invariably the case, both sexes when flushed (especially if suddenly come upon) often give utterance to a peculiar sharp note, '*tir, tir, tir,*' uttered very quickly and sharply.

"Those that I examined—and I have lately dissected numbers —had eaten only grass seeds."

Mr. Cripps writes :—"I have shot this Quail in the Dacca district, where it is comparatively rare. I have always observed them during the cold season, and am of opinion that they do not breed in the district. They frequent the stubble of paddy crops, and when flushed make for the nearest patch of 'Sone' grass or scrub, when it is very difficult to flush them a second time. They are found singly, and occasionally in pairs."

THE PAINTED QUAIL breeds in Pegu, Cachar, Purneah and the Sub-Himalayan districts westwards of this, and in the warmer valleys of the lower outer ranges of the Himalayas from Sikhim to near Kasauli. Where else it breeds within our limits I have yet to learn—probably in Ceylon, Tenasserim, and the valley of Assam, at any rate. It breeds freely in the Malay Peninsula, whence also I have the eggs.

This species is clearly monogamous. The *hen* sits (not the male, as in the Bustard Quails), and the male is always to be found near at hand; and when the young are hatched both parents accompany the brood for at least two months after they are able to fly.

I have had reason to suspect that they may breed twice a year, but the matter is still doubtful, as the different periods at which we have found their nests may be due to differences in the climate of the localities in which we met with them.

In the Sub-Himalayan districts and ranges, it lays from the latter end of June to at least the second week in August. In Cachar, Mr. J. Inglis tells me that it lays in June and July. In the Malay Peninsula Davison took the eggs in March. The nest, always on the ground, usually in the midst of low short grass, though always close to thicker cover, is a mere depression in the soil, more or less thinly lined with blades and fine stems of grass. Six appears to be the usual complement of eggs, but in two cases only five and four eggs respectively were found a good deal incubated.

Davison says :—"I took a nest of this species containing six eggs at Klang on the 15th of March. The nest was, as usual with Quails, a mere depression in the ground, loosely lined with a few grass stems. It was in rather an odd situation, being placed directly in front of, and only a few paces from, an iron target, which was fired at almost every day in the week, and often by whole squads of men, for hours at a time. The little bird did not seem to mind the firing in the least, nor the soldiers and others passing; but if any one approached too close to the nest, she would fly off with a sharp note of remonstrance, returning however in a very short time."

Writing from Pegu, Mr. Oates remarks :—"A nest found on the 14th July was a mere pad of grass placed in a clump of coarse grass. It contained five fresh eggs. They are slightly glossy

and rather rounded. The ground colour is olive brown, and the shell is speckled with a few minute reddish brown spots."

The eggs are broad ovals, as a rule, decidedly pointed at one end, approaching the shape of those of the Common Francolin, many varieties of which they precisely resemble in colour, which is usually a more or less pale, slightly olivaceous drab or *café au lait*, with a faint olive tinge. Generally they exhibit some minute specks and spots, varying in colour from purplish grey to an obscure reddish brown. In some clutches these markings are excessively minute and sparse ; occasionally they are almost entirely wanting, while most commonly they are pretty thickly set, with here and there a spot a fiftieth of an inch in diameter.

The eggs are always rather dull eggs, and, though the shell is moderately fine and smooth, never seem to have more than a faint gloss.

They vary from 0·95 to 1·04 in length and from 0·7 to 0·81 in width, but the average of a considerable series is 0·98 by 0·76.

THIS species varies a good deal in size, but not according to sex, chiefly, I think, according to age ; they continue apparently to increase in bulk and weight long after they are full-plumaged.

The following is a *résumé* of a very large series of measurements of *adults* of both sexes ; the young, even when nearly full plumaged, are smaller :—

Length, 5·45 to 6·0 ; expanse, 8·9 to 10·0 ; wing, 2·65 to 3·0 ; tail from vent, 0·8 to 1·2 ; tarsus, 0·75 to 0·9 ; bill from gape, 0·49 to 0·56 ; weight, 1·5 ozs. to 2 ozs.

The legs and feet are bright yellow ; the claws brownish ; the irides in the adult male always *crimson* or *red*, not deep brown, as Jerdon and others following him state ; in the young of both sexes they are usually brown ; in the adult female deep brown, varying in old birds to red brown ; the eyelids are lead colour ; bill black ; edge of upper mandible along commissure and two-thirds of lower mandible plumbeous. This in the male ; in the female, generally the entire gape and lower mandible are plumbeous.

THE PLATE is very fair, and accurately represents the specimens sent to be figured. Unfortunately the male was a very small one, while the female was the largest of her sex that I have seen, with a wing of 3·0 inches ; hence the plate might convey the idea that the females were larger than the males, whereas, though individuals of both sexes differ much in size, as a body, the males are just as big as the females.

The specific name is wrongly spelt on the plate.

It is desirable to notice that in both sexes the plumage varies very considerably according to age. The young birds of both sexes are very like the adult female, but they have the

entire lower surface, except the chin and throat and a narrow band down the centre of the abdomen, strongly barred transversely with blackish brown. As the birds get older, these barrings disappear, but adult females still exhibit these bars, though much diminished in breadth, on the sides of the breast and flanks. In very old females barely a trace of these remain, and only on the flanks.

The young males are very similar to the young females, except that the conspicuous shaft stripes of the neck and mantle are white instead of buffy. In these the change from youth to age is as follows :—

On the upper surface the general tint grows darker, the shaft stripes one by one disappear, and in very old adults disappear wholly ; on the lower surface the black and white markings on the face and throat begin to appear, dull slaty blue mingles with the brown of the lower parts ; then a narrow band down the middle of the abdomen, the thigh coverts, vent, and lower tail-coverts become bright chestnut. Gradually this chestnut creeps up over the entire abdomen, sides, and flanks, and the middle of the breast, leaving only the sides of the breast and the base of the throat below the black line a purer slaty blue. In the meantime a rather duller shade of this same colour has overspread the sides of the neck, head, and forehead ; lastly, the white line from the nostrils to the eye, often very indistinct in younger birds, has come out very clear and distinct.

The male that we have figured is not an old bird ; it hardly shows the white line at all, and has much more blue and less chestnut on the lower surface than very old birds have. The female figured is a very old bird.

BESIDES the races or sub-species from the Philippines, Celebes, New Guinea and Australia to which I have already alluded, there is an *Excalfactoria adamsoni* from Western and Southern Africa (though it is more seldom seen in the south) truly congeneric, Mr. Sharpe assures me, with, and not unlike, our bird.

1/2

TURNIX PUGNAX

THE INDIAN BUSTARD-QUAIL.

—o—

Turnix taigoor, *Sykes.*

—o—

Vernacular Names.—[Gulu, Gundlu, Salui-gundru (Hindustani); Pured (*female*), Koladu (*male*) (Telegu); Kurung-kádeh (*female*), An-kádeh (*male*] (Tamil); Dúrwa, *Ratnagiri;* Káré-haki (Canarese), *Mysore;*

—o—

THERE has been so much confusion between the several species of Bustard and Button-Quail, that it is difficult to indicate accurately the distribution of the present species. I myself went quite wrong in "NESTS AND EGGS."

The present species is very close to the next, but though nearly* the same size, and with very similar markings, the prevailing tint of the interscapulary region and back in the Indian Bustard-Quail is *rufous*, in the Indo-Malayan bird, brown. There are differences in markings, but no weight must be attached to these, as they are individual. Scarcely any two specimens of either species are precisely alike, but almost every variation in markings in one species will be found also in some specimens in the other. It is solely, so far as I can ascertain, by the prevailing tone of the colour of the upper surface that the two species can be separated.† This may seem an insufficient reason for making two species out of the form; but it has to be noted that, if taking a large series from all parts of the Empire you separate the two forms, you find that all the really red birds (the present species) are from one geographical area, and all the brown birds from another.

As I said before, there has been great confusion about the several Indian species. I have been misled by others, and have myself made mistakes; and now in trying to define the range of the Indian Bustard-Quail I shall disregard everything but the testimony of specimens which I possess or have myself examined.

---

* The Indo-Malayan bird averages larger, as will be seen from the detailed dimensions given.

† There is, as above noticed, a slight difference in average size, but this would not enable us to separate the two birds, since large specimens of the one would be quite as big, or even bigger, than small ones of the other.

This species occurs in many parts of Ceylon,* in Travancore, throughout the Madras Presidency, in Mysore, Coorg, the Nizam's Territories, throughout the Bombay Presidency Proper, including Khandesh, Guzerat, Cutch and the country immediately round about Cutch (but excluding Káthiáwár, Sind and Jodhpore, whence I have seen no Quails of this type), the Central Provinces, Chota Nagpore and the Sonthal Pergunnahs, the Central India Agency, Eastern Rajputana, the North-Western Provinces, Oudh, and Behar (excluding the Sub-Himalayan tracts of these), and some part, at any rate, of the Punjab, Cis-Sutlej. I have no *knowdedge* of its occurrence elsewhere in the Punjab. I have never seen a specimen of the Indo-Malayan Bustard-Quail from any one of the Provinces or States above enumerated.

This enumeration would indicate a well-defined and easily-explicable range. Formerly (S. F., VI., 451) I assigned to this species three rather reddish specimens from Cachar and Thyetmyo respectively, but having now a much larger series, I find that, even in the south of the Malay Peninsula, about one in twenty or thirty specimens (always somewhat immature examples, like the three above referred to) are somewhat redder on the upper surface than the rest, though not nearly so red as the true *taigoor;* and I have no doubt now, having other typical examples of *plumbipes* from both Cachar and Thyetmyo, that these three specimens, which are precisely like two or three others from the Malay Peninsula, are, like these latter, somewhat abnormal examples of the Indo-Malayan bird, which thus occasionally, when immature, shows a tendency to reproduce what was probably the colouring of the common ancestral form.

So far as is known this race or species occurs nowhere outside our limits.

THE INDIAN BUSTARD-QUAIL is a plains species, affecting often, indeed, jungly and broken ground, but never, so far as I can ascertain, ascending the higher hills, such as the Nílgiris, Pulneys, &c., to elevations exceeding two thousand feet.

It is, on the whole, and speaking broadly, a bird of regions of moderate rainfall, while the next species rather belongs to the heavy rainfall tracts.

Scrub jungle†, intermixed with patches of moderately high grass on dry ground, is perhaps its natural home; but it may be

---

* Blyth remarks (*Ibis,* 1867, p. 309) :—

"It appears that there are two varieties in Ceylon, one abundant throughout the flat northern-half of the island, which agrees with that of India generally; the other, with a more deeply cinnamon coloured abdominal region, which is as common in the south, and perhaps may be met with in the mountainous parts of South India."

All my specimens are from Kandy and Colombo, and I have seen nothing of this second variety, though we have specimens from other parts of India in which the colour of the abdominal region is deeper than usual.

† Mr. Davidson writes :—

met with anywhere in low bush jungle and on the skirts of forests, and, in inhabited districts, greatly affects gardens, grass preserves and similar enclosures. It strays into stubbles and low crops in the mornings and evenings, even remaining in these at times throughout the day, but more generally retreating during the hotter noontide hours to the cover of some thorny bush or patch of grass upon their margins.

Where the country is very arid, as in most parts of Rajputana and many places in the North-Western Provinces, this species is scarcely seen except during the rainy season; and again, it is almost unknown in densely-cultivated and populated tracts where there is no jungle and no long grass. I have invariably seen it singly or in pairs, and only rarely in the latter; never in parties or bevies of five or six, as Jerdon says.

Small millets, grass seeds, ants, white and black, and other small grains and insects constitute its food. It feeds almost exclusively in the early mornings and near sunset. At these times it may be seen running about along the paths of gardens or other enclosures, amongst isolated tufts of grass, on the margins of clumps of stunted jujube, and in the edges of low crops, and even in short stubbles, if these occur in the neighbourhood of suitable cover.

It is a very silent bird. Except during the breeding season, I have never once heard it call; at that time the females emit a dull note, scarcely likely to attract attention unless you are on the look-out for it. I have occasionally heard and noticed it, but not often. Colonel Tickell however says that this species "is as great a ventriloquist as the Corn Crake, bothering the sagacious* sportsman as to its whereabouts. Its note is a long-continued 'purr' or 'roll,' as if a tiny drum were being beaten somewhere about our feet; and so deceptive is the sound that it appears close by when, in fact, fifty or sixty yards off, and *vice versâ*. It is heard chiefly of an evening, just before sunset, when the air is calm and cool, and the fields and jungle assume that sweet, soft green, fading imperceptibly into the pale violet background of distant woods and hills, so characteristic of that gentle hour, nowhere more beautiful than in the spring-like winter of Bengal."

"This was a rare Quail in the Deccan, and I found it generally in the scrub jungles.

"In Túmkúr, Mysore, it was very common among the cocoanut gardens, wherever these latter were out of order and contained high grass.

"In the Pánch Mahâls, Guzerat, it was not uncommon among the small enclosed fields."

Mr. Vidal remarks:—

"A few are found in Ratnagiri in winter crops of pigeon-pea and *Dolichos*, and at other times of the year in thick groves and thickets about villages. Nowhere plentiful in this district, usually flushed in pairs. I have sometimes found it in hill-side scrub"

* No sagacious *sportsman* would ever give the bird a second thought.—A. O. H.

It affords no sport, and it is never wise to waste a minute on it. If by chance it rises whilst you are beating for Partridges or other Quail, well and good ; but it is an inveterate runner, scarcely to be flushed without dogs, running persistently even before these, and when put up, usually dropping within fifteen or at most twenty yards before you can well shoot it with an ordinary charge without blowing it to pieces. Without dogs it is extremely difficult to induce it to rise even out of a single tuft of grass, which you may almost kick to pieces before the little wretch will accept your "notice to quit."

The most remarkable point in the life-history of these Bustard-Quails is the extraordinary fashion in which amongst them the position of the sexes is reversed. The females are the larger and handsomer birds. The females only call, the females only fight—natives* say that they fight for the males, and probably this is true. What is certain is that, whereas in the case of almost all the other Game Birds it is the males alone that can be caught in spring-cages, &c., to which they are attracted by the calls of other males, and to which they come in view to fighting, in this species no males will ever come to a cage baited with a male, whereas every female within hearing rushes to a cage in which a female is confined,† and if allowed to meet during the breeding season, any two females will fight until one or other is dead or nearly so.

The males, and the males only, as we have now proved in numberless cases, sit upon the eggs, the females meanwhile

---

* Col. Tickell says :—

"The Koles and Uriyas told me it was the hen bird which makes this singular call, and that she is not only (as in right of her sex) more loquacious, but absolutely more pugnacious than her worse half, who appears, in remarkable contrast to all other game or gallinaceous birds, to enjoy an ignoble sinecure in all matters of courtship and connubial arrangements. The hens, in fact, about the commencement of the rains, after a round game of fighting (which lasts for a week or so), select their bridegrooms, with whom 'to hear is to obey,' and so set up house for themselves. Truly a Jerry Sneak kind of affair altogether on the part of these husbands."

† Dr. Jerdon long ago gave an accurate account of the capture of the females of this species. He said :—

"The hen birds are most pugnacious, especially about the breeding season, and this propensity is made use of in the south of India to effect their capture. For this purpose a small cage, with a decoy bird, is used, having a concealed spring compartment, made to fall by the snapping of a thread placed between the bars of the cage. It is set on the ground in some thick cover carefully protected. The decoy bird begins her loud purring call, which can be heard a long way off, and any females within ear-shot run rapidly to the spot, and commence fighting with the caged bird, striking at the bars. This soon breaks the thread, the spring cover falls, ringing a small bell at the same time, by which the owner, who remains concealed near at hand, is warned of a capture ; and he runs up, secures his prey, and sets the cage again in another locality In this way I have known twelve to twenty birds occasionally captured in one day, in a patch of thick bushy jungle, in the Carnatic, where alone I have known this practice carried on. The birds that are caught in this way are all females, and in most cases are birds laying eggs at the time, for I have frequently known instances of some eight or ten of those captured so far advanced in the process as to lay their eggs in the bag in which they were carried before the bird-catcher had reached my house."

larking about, calling and fighting, without any care for their obedient mates ; and lastly, the males, and the males only, I believe, tend and are to be flushed along with the young brood.

This seems a strange departure from what we might call the plan of creation ; but nature is full of these surprises. She goes on (like Babbage's calculating machine) working so long and so steadily on one formula, that you make up your mind that this is a fundamental law of her machinery, and then suddenly (like the machine) she makes a great jump, and a wholly different formula comes for a brief space into operation, and then again the old law resumes its sway.

Almost throughout the higher sections of the animal kingdom you have the males fighting for the females, the females caring for the young ; here, in one insignificant little group of tiny birds, you have the ladies fighting duels to preserve the chastity of their husbands, and these latter sitting meekly in the nursery and tending the young. It is, to our ideas, a very odd arrangement, because we have become so thoroughly imbued with the spirit of the opposite one ; but it answers apparently just as well, so far as the interests of the race are concerned, as that one with which we are so familiar, and on which we pin our faith ; and in this and many similar cases it has often seemed to me that nature mutely warned mankind against dogmatism and against the foolish, though all too prevalent, belief that only what we know and are used to can be good, and that neither government nor society can get along equally well under any laws and forms but just those to which we have become accustomed.

To return to our Quails : Tickell says that they are "daintily flavoured birds." Jerdon, that "the flesh is excellent, mixed brown and white, succulent and tasty." The upper layer of flesh on the breast is no doubt darker than the lower, but dark or light, it is dry, and by no means tasty according to my ideas ; in fact, it is precisely like that of a hapless Common Quail that has been carried about in a closely-closed basket, without room to move or fresh air, and with very little or no food or water, for three or four days.

ALTHOUGH TO A small extent migratory, a few pairs appearing during the rainy season in the drier districts of the North-Western Provinces, Eastern Rajputana, and the Punjab, Cis-Sutlej, in places where they are never seen from December to the end of June, still the great majority, I believe, are everywhere permanent residents ; and, though slightly varying their haunts and feeding grounds as the seasons change, yet always breed in the same immediate vicinity in which they have spent the rest of the year.

They *may* have *two* broods in the year, but in Upper India and the Central Provinces I have only found or known of the

finding of their nests during July and August. This too is the season in which they lay in Guzerat, and it was during these months that Colonel Tickell says he had eggs brought him in Purulia (Western Bengal). Mr. W. Theobald found the nest at Monghyr in the first week in June. In the Pánch Mahâls Mr. Davidson took a nest with four hard-set eggs in the middle of November. Two nests were sent me from Salem taken in August. Jerdon says :—

"In the Carnatic this bird breeds from July to September, further south from June to August, and in Ceylon, says Layard, from February to August."

Sometimes this species makes no nest at all, and merely scratches a hollow at the base of, or in the midst of, some tuft of Sirpatta grass, or occasionally some little dense bush adjoining or surrounded by long grass. Sometimes it makes a little pad of grass, rather soft dry grass, three, or at most four, inches in diameter and half an inch in thickness, which it places as a lining to the hollow. Now and then I am informed that, when laying during heavy rain, it constructs a sort of hood or dome over the nest.

Generally, it does scratch a hollow for itself, but at times natural hollows or the hoof-prints of cattle are accepted and used, with or without a lining, without so much as a trace of the lazy little bird's feet being visible. I surprised a female, conspicuous by her black throat and breast, in the act of scratching a nest hole—a hole she laid in next day—and I therefore believe the native account,which attributes the construction of the nest to the hen ; but when they continue that, as soon as the clutch is complete, the female drives the reluctant male on to the eggs, and thereafter gives him a tremendous thrashing if ever she catches him away from these, I am bound to say that I suspend my opinion. True, an old Mughul Shikári, whom I employed when I was in the Meerut district, used to aver that he had often watched the males feeding near their nests rush on to the eggs at the sound of the females' call, and sit there, looking as if they had not left the nest for at least a week, until the female appeared, walked once or twice round the nest, and strutted off again, calling vociferously, as much as to say "Lucky for you it's all right, my little friend!" But this old ruffian was one who held that

> "A spaniel, a woman, a walnut tree,
> The more you whap'em the better they be ;"

and these reminiscences of his, chiefly narrated (and perhaps concocted) in view to impressing on my youthful mind a wholesome lesson as to the lengths to which the female sex, if not kept under proper restraint, is apt to stray, must assuredly be set down as "requiring confirmation."

There is no doubt that the normal number of the eggs is four ; out of thirty-odd nests examined by myself and others, only

one contained six, and two five eggs. Jerdon speaks of the eggs as being from five to eight in number; if eight eggs have ever been found in a nest, it must have been where two hens, compelled to share a single husband, and having therefore only one party to sit on the eggs, agreed both to lay in one spot.

Captain Butler writes to me:—"I found a nest containing four fresh eggs near Deesa on the 9th August. I laid a horse-hair noose on each side of the tuft of grass under which it was placed, and on returning to the spot about a quarter of an hour later, I found the *cock* bird snared and sitting upon the eggs, probably not knowing that he was caught, as he did not move off the eggs until I frightened him. The nest consisted of a small saucer-shaped hole scratched under a low tuft of grass growing in an open field, with scarcely another blade of grass near it. It was lined with a thin loose pad of short pieces of dry grass and thin bits of stick and fell to pieces in my hand. The eggs are perfect miniature pegtops, being almost round at the large end and very pointed at the small. They are remarkably large for the size of the bird, of a dirty stone colour, densely covered with brown and yellow specks, having good-sized blackish spots and blotches sparingly scattered over the shell, principally towards the large end. A few inky purple markings, as if below the outer surface of the shell, are also visible. An equal mixture of mustard, salt and pepper would give one a good idea of the general colour of the eggs. They have scarcely any gloss.

"I found several other nests in a grass preserve in the same neighbourhood on the following dates:—

"July	28th, 1876,	a nest	containing	4	fresh eggs.
"	"	"	"	3	"
"	30th	"	"	3	"
Aug.	1st	"	"	4	"
"	4th	"	"	4	"
"	5th	"	"	4	"
"	6th	"	"	4	"
"	7th	"	"	1	"

"All of these nests were exactly similar to the one I have described, except that in most instances they were placed under a tussock of grass instead of being out in the open."

With the Bustard-Quail we are presented with quite a new type of egg, somewhat reminding us, no doubt, of those of the Common Quail, but yet widely differing in colour and general appearance. In shape the eggs vary from moderately broad ovals, scarcely at all pointed towards the small end, to typical peg-tops. The ground colour is greyish white, and they are very thickly and minutely speckled all over with what a close examination proves to be a mixture of *minute* dots of yellowish and reddish brown and pale purple. Some eggs have absolutely no markings except this minute dotting or stippling, but the majority have spots and blotches more or less thinly speckled over the surface (often only at the large end, always most thickly there)

of intense reddish or blackish brown or even bluish black. The minute dottings in many eggs, everywhere dense, are most so at the large end, where, with the blotches, they occasionally form an irregular, imperfect and ill-marked mottled or smudgy cap or zone. The general appearance of the egg, when not closely looked into, is paler or darker dingy earthy brown, with dull blackish spots and small blotches. Some of the eggs have scarcely any gloss ; others are fairly glossy.

The eggs vary in length from 0·8 to 1·02, and in breadth from 0·72 to 0·85 ; but the average of thirty is 0·93 by 0·79.

THE FEMALES are considerably larger than the males as a body, though some old males are as large as a good many of the females.

The following is the outcome of a large number of measurements :—

Males.—Length, 5·44 to 6·37 ; expanse, 10·75 to 11·7; wing, 2·85 to 3·1 ; tail from vent, 0·9 to 1·2 ; tarsus, 0·85 to 0·95 ; bill from gape, 0·6 to 0·72 ; weight, 1·5 oz. to 1·9 oz.

Females.—Length, 6·0 to 6·6; expanse, 11·0 to 12·5 ; wing, 3·0 to 3·45 ; tail from vent, 0·9 to 1·38 ; tarsus, 0·9 to 1·02 ; bill from gape, 0·68 to 0·78 ; weight, 1·7 oz. to 2·25 ozs.

Legs and feet light slatey to plumbeous; the bill dark slatey bluish or plumbeous, usually brownish on culmen ; the irides pale yellow to straw white.

THE PLATE conveys a tolerably good idea of this species. It is, however, rather coarse and hard, and the birds are made to look like Bustards by being represented as standing bolt upright in a way that these Quails never do stand. Under no circumstances would you ever, I think, see their thighs. Their position, even when perfectly at ease, is more crouching.

The plumage in this species varies very greatly in different specimens; to a certain extent perhaps locally, but chiefly according to age. Of this the Plate conveys some idea.

Tickell states that the female of this species loses the black of the throat after the breeding season. I do not believe that this is the case, as we have females with the entire throats black killed in every month of the year except September and January. At the same time, it is to be noted that young females apparently do not assume the black throat till the second year, and then show less black than old birds.

$\frac{1}{2}$

TURNIX PLUMIBES

THE INDO-MALAYAN BUSTARD-QUAIL.

Turnix plumbipes, *Hodgson.*

Vernacular Names.—[Timokpho (Lepcha) ; Tiniok (Bhutia) ; Ngón (Burmese), *Pegu ;* Puyoh, Peeyoo-Kubun (Malay) ; Gnoke-coone, Nock-küne (Siamese), *Malay Peninsula ;*]

THE Indo-Malayan Bustard-Quail is found throughout the Deltaic districts of Lower Bengal,* in the Bhútan Duárs and the Sikhim Terai, and thence westwards in all the submontane Dúns, Terais, Bhabars, and other well-watered, more or less jungly, tracts that lie within a compass of fifty miles or so from the bases of the Himalayas, at any rate as far as where the Jumna debouches from these. Again, in all the warmer valleys and lower ranges of these mountains, it is met with up to an elevation of five or six thousand feet (in places even higher), as far west as the valley of the Tonse. Further, it occurs everywhere east of the Ganges, in Tipperah, Chittagong, Cachar, Sylhet, the Assam valley as high up at least as close to Dibrugarh, and the Gáro and Khásia Hills.

Eastwards it is common in many parts of Aracan, Pegu,† and Tenasserim, from the extreme north to the extreme south of each.

Outside our limits, this species certainly occurs in Independent Burma, Western Yunan, the Shan States, and Western Siam. I believe too that the Sumatran species is identical, but I had not properly studied these Bustard-Quails when I examined the only Sumatran specimen I have seen, and I cannot now be certain of the fact.

I have never seen Javan specimens, but I rely on the Marquess of Tweeddale's decision that the Javan *pugnax* differs from our Burmese and Malayan birds.

---

* It is extremely common about Calcutta. From first to last, Mr. J. C. Parker and myself have taken fully a dozen nests of this species in the Botanical Gardens there.

† Mr. Oates writes :—

"Found throughout the province of Pegu both in hills and plains. It is a bird of the jungle, and but rarely found in the open. It is a constant resident ; according to my experience, it is nowhere sufficiently common to afford sport."

EXCEPT that it frequents more humid localities and everywhere ascends mountains, the habits of the present species do not differ materially from those of its Indian representative. It is, however, perhaps even more essentially a bird of clearings and gardens, especially gardens where there are clear lines between rows of beans, sweet potatoes, and the like, up and down which it can run. It is never found in dense forest or heavily-wooded tracts, and the countries it affects being so much richer in low cover of all kinds, it is not so much a grass bird as *taigoor* is.

It is almost always flushed singly, very rarely in pairs, never in parties or coveys, except whilst the broods are young, when one old bird and four, or occasionally five, chicks may be put up together.

In this species too the females rule the roast; and in Malay countries, as Sir Stamford Raffles correctly says, a hen-pecked husband is commonly called a "*Pee-Yoo*" in derision.

Grass seed and the tips of tender blades of grass are probably its chief food; but it also eats a variety of tiny seeds, beetles, and other insects. It seems to be very little of a grain-eater. Common as it is in gardens, it is rare to find it in paddy fields or paddy stubbles.

I do not think that either this or the Indian species drinks much, if at all. I have never seen either drinking nor heard of any one who has, while the *Perdiculas*, *Microperdix*, &c., habitually drink, and may often be caught in the act.

Like their Indian congeners they are terrible runners; it takes a small, very active dog to flush them, and when put up they are scarcely well on the wing before they drop, as if shot, into some thick bush or tuft of grass, whence they start off running again. Without dogs you will never flush one-tenth of the birds, even the first time; and once a bird has made its flight (such as it is), it is simply hopeless endeavouring to put it up a second time by any ordinary beating. Like *taigoor*, too, they are habitually very silent birds; so far as I know, it is the females alone who call, and these only during the breeding season.

Whether it is owing to their skulking habits and the greater density, as a rule, of the low cover in the regions they frequent, I cannot say; but they seem to me more sparsely distributed than is the Indian bird. Of the latter you might in many places, with good dogs and small charges, bag by hard work at least a dozen, and possibly twenty, couple in a day, whereas, from what I know myself and from what I hear from others, I doubt whether you could anywhere shoot even half this latter number of *plumbipes*, fag as you might. They are, I think, more thinly spread about the country.

LIKE THE preceding species, the Indo-Malayan Bustard-Quail is, to a small extent, migratory, ascending the hills higher

in summer and temporarily quitting flooded districts ; but for the most part it lives all the year round and breeds in the same immediate neighbourhood.

It lays at different periods in different localities, and possibly has two broods in the year.

In Sikhim its nests are chiefly met with in May and June, in the Dún during July and August, about Calcutta from early in July to quite the end of September, in Tipperah, Cachar and Burma about the same period. In the south of the Malay Peninsula Davison took eggs in March.

The nests are, as a rule, precisely similar to those of the Indian species. I myself have never seen a domed or hooded nest of either species, though both undoubtedly construct such at times. Four is the normal number of eggs laid, though five, and even six occur, somewhat less rarely in this species than in the last.

Captain Hutton remarks :—"On the 30th July the eggs were taken in the Dún near the foot of the mountains. Colour stone grey, irrorated with small specks of brown interspersed with larger spots of neutral tint, which form an irregular ring at the larger end. They measured rather less than an inch by 0·75. The number of eggs was four only, but the proper number, according to Jerdon, far exceeds this. There was no nest, but merely the usual scratched spot on the ground, with a little dry grass and leaves, beneath a few stunted bushes. The bird ascends in the summer to about 5,500 feet, and breeds there also. It has a pleasing ringing note, and is brought in large numbers for sale. It is very pugnacious, but is easily tamed."

From Sikhim, Mr. Gammie writes :—"I have found this bird breeding in May and June in the Darjeeling District from 2,000 to 4,000 feet. It builds in the ground in open, cleared country, by the sides of small shrubs or tufts of low grass. It sits very close, and can easily be caught on the nest. The nest is usually, though not always, hooded, loosely made of dry, half-rotten grass, and measures externally about 4 inches in height to the top of the hood by the same in width. The cavity is about 2¾ inches in diameter and an inch in depth from lip of cup. The eggs are four in number, and the young leave the nest directly they are hatched. The bird is common in the tea and cinchona plantations, and,—in wet weather especially,—greatly frequents the roads, only rising when almost stepped on. It is a source of great annoyance to timid ponies, rising as it does with a whir from under their noses. It is a very solitary bird, rarely more than one being seen at a time. I am not certain that it is migratory, but cannot recollect ever observing it during the cold season."

The eggs of this species very closely resemble those of the Indian bird ; and though they seem to average somewhat longer and narrower and to be as a body browner and darker, with more numerous and larger black blotches, *some* of those that I have

from Sikhim and Burma are undistinguishable from others from Salem (Madras), Jhánsi, &c.; and there is no such difference in the eggs as to afford independent evidence of the distinctness of the two forms.

Typically the eggs are broad short ovals, much compressed and somewhat pointed towards one end; but some are very regular ovals, scarcely smaller at one end than the other, and very obtuse at both; some again are nearly spherical, while peg-tops in the exaggerated form, not uncommon in the eggs of the Indian bird, seem very rare amongst those of the present species.

The shell is fine and the eggs are decidedly glossy. The ground colour varies from greyish or creamy white to a pale brown stone colour, and they are stippled all over with excessively minute dots of what, unless closely looked into, appears to be dusky brown, and in some eggs almost black, but which is really a mixture of yellowish and reddish brown and pale purple and black specks. Some eggs have no other markings, but most of them exhibit a greater or less number of larger spots and blotches either black or a deep brown that is almost black. These markings are almost confined to the large end; at any rate the larger blotches scarcely ever occur anywhere else, and even there it is only quite exceptionally that they are numerous or thickly set. In some eggs the stippling is coarser and more strongly defined, and the black specks predominate, so that, looked at from a distance, one might describe the eggs as cream colour, thickly speckled all over with dull black. This type of egg rarely exhibits any large blotches.

In length the eggs vary from 0·93 to 1·04, and in breadth from 0·71 to 0·85; but the average of twenty-five eggs was 0·96 by 0·77.

THE FOLLOWING is an abstract of a large series of measurements of both sexes from the Malay Peninsula, Tenasserim, Calcutta, Sikhim, and the Dún: I mention this, because, though individuals vary in size greatly, there is no local variation in magnitude, some birds from each locality being large and some small:—

Males.—Length, 5·6 to 6·25; expanse, 10·9 to 12·3; wing, 3·12 to 3·5; tail from vent, 0·9 to 1·2; tarsus, 0·9 to 1·0; bill from gape, 0·65 to 0·73; weight, 1·6 ozs. to 2 ozs.

Females.—Length, 6·12 to 6·7; expanse, 11·75 to 12·75; wing, 3·4 to 3·7; tail from vent, 1·0 to 1·4; tarsus, 0·95 to 1·12; bill from gape, 0·7 to 0·81; weight, 1·5 ozs. to 2·56 ozs.

The legs, feet, and claws are slaty or leaden blue or plumbeous, the claws often paler; the bill varies through the same shades and is often, not always, tinged brownish on the culmen or even on all but the basal portions of the upper mandible; the irides are pearly, ashy, or dirty white; eyelids plumbeous grey.

It will be seen that this species does average larger than the Indian form, and, I may add, that as a rule the soft parts are paler coloured.

THE PLATE (name wrongly spelled) gives a fair idea of the species, though the irides are all too yellow for this species, and most of the birds are made to stand too high on their legs. Moreover, the right-hand bird in the back-ground is painted redder on the back than even the reddest of those abnormal immature birds to which I have already referred when dealing with *taigoor*.

Colonel Tickell, who doubts the specific distinctness of the two forms, remarks :—" The deepest coloured are found in the Malay Peninsula and all along the sea-board of Siam, and through the Tenasserim provinces, Burma and Aracan, into the Khásia Hills and the Eastern Hemála, this bird is met with, but growing lighter as it ranges north."

This, however, is really *not* the case. I have before me a huge series, and I find birds from the Khásia Hills, Sikhim, and Nepal as dark as any from Salang or Johore ; and again I have one or two birds from these localities actually lighter than any from Continental India. Whatever the specific value of the form, it exhibits no local gradation either in colour or size from Sikhim to Singapore.

¾

TURNIX MACULOSUS.

F. Waller, Chromo Lith. 18, Hatton Garden London.

THE BURMO-MALAYAN BUTTON-QUAIL.

Turnix maculosa, *Temminck.*

Vernacular Names.—[Ngon, (Burmese), *Pegu*].

NOTHING is accurately known of the distribution of this species. It occurs, though sparingly, throughout Tenasserim, in Pegu, * and Aracan, and I have specimens from Hill Tipperah. I should have expected to find this species in Assam, but Godwin-Austen, in his fourth list, gives the Indian species (*T. joudera,* which, following Jerdon, he erroneously designates *T. dussumieri*) from the Nága Hills. Perhaps he failed to distinguish the two species, which scarcely differ except in size.

Certainly it is the present species that occurs in Independent Burma, and I have reason to believe that it extends into the northern portions of the Malay Peninsula.

Burmese and Chinese specimens are not to be separated, and David and Oustalet tell us they have compared Chinese specimens with Temminck's type and found only insignificant differences. We may, therefore, assume that this species† occurs throughout China, extending into Eastern Siberia, where Prjevalski obtained it in the country of the Ussuri, and whence Dybouski sent it from near Lake Chanka.

Probably this same species will be found to occur in Siam, Cochin China and Tonquin.

I HAVE never shot this species myself, but doubt not that its habits and haunts are almost precisely similar to that of its Indian representative, *T. joudera.* Davison, who has shot it throughout Tenasserim only, says :—" I have always found this species about gardens or in the immediate vicinity of cultiva-

---

* Oates writes :—" I have procured two specimens near the town of Pegu in gardens. I know nothing of its habits, and judge it to be rare. It is probably a constant resident."

I have received specimens from many localities in Pegu.

† Renamed *viciarius* by Swinhoe.

tion, but it is very rare, being only occasionally met with, and always singly or in pairs. It is hard to flush, and only flies a short distance before again dropping, but it then runs a considerable distance before halting, and thereafter lies very close. It feeds like the other Quails in the mornings and evenings, lying hid during the heat of the day. On cloudy or rainy days it moves about all day. I do not know the call of this species."

The fact is, that it is apparently everywhere thinly distributed, that it is a terrible skulk, only to be flushed by chance without the aid of dogs, and is, I gather, as a rule, a very silent bird.

Specimens examined had eaten grain, seeds, small insects and tiny green shoots.

OF ITS nidification nothing seems to have been as yet recorded, but this cannot differ materially from that of its close ally, *T. joudera*, though the eggs will doubtless average larger.

THE FOLLOWING are the dimensions and colours of the soft parts of a male and a female :—

Male.—Length, 6·5 ; expanse, 12·0 ; tail from vent, 1·5 ; wing, 3·62 ; tarsus, 1·0 ; bill from gape, 0·75 ; weight, 2·25 oz.

Female.—Length, 7·0; expanse, 13·5 ; tail from vent, 1·5 ; wing, 4·12 ; tarsus, 1·05 ; bill from gape, 0·75 ; weight, 2·75 ozs.

The male had the legs, feet, and claws chrome yellow ; upper mandible dark horny brown ; lower mandible pale brown ; irides, in three birds, white.

The female had the legs, feet, and claws chrome yellow ; lower mandible, gape, and base of upper mandible chrome yellow ; rest of bill reddish brown ; irides white.

Other specimens differ somewhat in dimensions ; the wings of males vary from 3·4 to nearly 3·7, and the wings of females from 3·8 to 4·12.

THE PLATE is a very pretty picture, and the figure in the background is an absolutely perfect likeness of the particular specimen figured ; the two figures in the foreground are also portraits, except that the red on the tertiaries of both, and the breast of the left hand one, is a wrong tint and should be a bright buff with, on the breast, a ferruginous tint. But though on the whole excellent likenesses of the particular birds figured, and giving, I hope, some idea of the character of the markings, this species, like its Indian representative, is so excessively variable, that I have now before me seven other specimens all differing materially from each other and not one of them agreeing at all closely with any of the specimens figured.

First let me say that, so far as plumage goes, both this species and *joudera* are inseparable. At any rate nine out of ten varia-

tions in tint, amount and extent of markings, &c., in this species, can be exactly matched in specimens of *joudera* and *vice versâ*.

Therefore the figures of this species may be taken as representing also types of plumage of *joudera*, while the figures of this latter exhibit types of plumage common to the present species (*maculosus*) likewise.

For be it understood that, though there is a marked difference in size, I can discover no other constant difference between the two species.

If you have two or three specimens only of each, the birds are so variable that the chances are against any one of either corresponding closely with any one of the other; but if you have, say twenty of each, at least ten of either will be counterparts of ten of the others, and five will be fairly matchable.

The difference in size is great. In the Indian birds the wings of males vary from 3·0 to 3·25, and those of the females from 3·3 to 3·55. But unless the birds have been sexed, it seems to me impossible to separate large females of *joudera* from small males of *maculosus*. Whether, under these circumstances, and having regard to the different geographical areas occupied by the two forms, it is desirable to treat them as distinct species, is a matter of opinion.

Generally I may say that, so far as I am able to judge, the plumage of the sexes does not differ. The extraordinary variations observable are due, it appears to me, to differences in age. As far as I can make out, the younger birds have the upper surfaces profusely marked with ferruginous red, black, and sometimes more or less of buff on a grey brown ground, and they have only a trace of the rufous collar. Gradually the markings on the mantle grow fainter and fainter, till it becomes a nearly uniform grey brown, not so blue as is depicted in Vieillot's figure, but still a somewhat grey brown. As this change takes place, the red collar comes out strongly, as shown in the figure referred to. The spottings on the wings diminish in size, and the markings on the head become brown instead of black.

On the lower surface, in the younger birds, the sides of the breast are a grey, at times somewhat olivaceous, brown, of which, however, little is seen, as the feathers are broadly tipped with buff and have a large black spot inside this tipping. As the bird gets older, these spottings almost entirely disappear from the sides of the breast, a few only remaining on the sides of the upper abdomen. Vieillot figures an old, but by no means a very old, bird, and in no specimen are the tertiaries, scapulars, and back the blue grey he has depicted them. Had the ground colour of these parts been brown with a grey shade, his picture would have accurately represented some specimens before me; but, as a rule in birds at that stage, the markings on the head would have been dark brown and not black.

I subjoin a careful description that I took from a series of adult, but not old, birds, which may assist my readers in discriminating this very variable form. :—

The chin, throat, and middle of the abdomen are white; the entire breast rufous buff, most rufescent in the middle of the breast, which is unmarked; the sides of the breast, with a more or less circular black spot near the tip of each feather; upper part of abdomen, sides of abdomen, sides of the body much the same pale rufous buff as the sides of the breast; in some specimens these parts are spotless; in others they exhibit a greater or smaller number of spots, similar to those on the sides of the breast, but often more oval; flanks and lower tail-coverts a rather brighter rufescent buff; feathers of the vent mingled buffy white and dull white; tibial plumes usually brownish; lores buffy white, often speckled with brown; cheeks and sides of the head pale buffy or buffy white, speckled and spotted with brown; ear-coverts small and inconspicuous, brown or rufescent brown, pale shafted; indications of a broad pale supercilium; forehead pale buff, barred or speckled with black; crown and occiput rufous (the feathers tipped black), with a narrow pale central streak; back, scapulars, rump, lesser wing-coverts, brown, patched with ferruginous rufous and pencilled with black, and many of the feathers tipped with buffy white, these tippings preceded by a black band; primaries, secondaries, and primary greater coverts plain, pale, grey brown, and the greater coverts and the quills often more or less margined with pale rufescent; median coverts and secondary greater coverts pale greyish rufescent, broadly tipped with buff, and with a large black spot near the tip; tertiaries pale brown, tinged with rufous, especially on the outer webs, pencilled in zig-zag with black, in some perhaps more correctly freckled, and with a buff band, preceded by an irregular black one near the tip on the outer webs.

½ TURNIX JONDERA

THE INDIAN BUTTON QUAIL.

Turnix joudera, *Hodgson.*

Vernacular Names.—[Lowa, *Upper India* ; Pedda dubba gúndlú (Telegu) ;]

A LITTLE skulking thinly-distributed species, rarely seen, and still more rarely shot, our information as to its distribution is very meagre. Jerdon says it occurs in the upland districts of Malabar, and Mr. F. Bourdillon sent me a skin from South Travancore, but I have no other records of its occurrence so far south. I do not know of its occurring in Ceylon or in any part of the Peninsula south of the latitude of Madras, save only in Travancore and Malabar, as above. It has not been reported from Mysore. It is very rare in the Deccan, and neither Sykes, Fairbank, Davidson nor Wenden appear ever to have met with it ; but Captain Butler has shot it in the neighbourhood of Poona during the rains. Jerdon says it occurs in the Eastern Gháts. Beyond this I regret to say I have no authentic record of its occurrence south of a line drawn from Ganjam to Bombay. North of that it is generally, but usually sparingly, distributed in Orissa, the Tributary Mehals, the Central Provinces, the Central India Agency, Khandesh, the Pánch Mahál s, and Guzerat, throughout Chota Nagpore, Bengal,* west of the Brahmaputra, and the North-Western Provinces and Oudh, penetrating during the summer into the warmer valleys of the outer ranges of the Himalayas, and being found up to elevations of 3,000, to 4,500 feet in Sikhim, Nepal, and Kumaun. Whether it extends westwards of this in the Himalayas, I do not know.

It occurs, but very thinly and locally distributed and only, I think, as a rainy season visitant, in the less arid portions of the Punjab, south and east of the Chenab, of Rajputana, Sind, Cis-Indus, of Cutch and Káthiáwár.

Whether it extends eastwards of the Brahmaputra or up into the valley of Assam, I cannot say. Major Godwin-Austen records it from the Nága Hills, but very possibly his bird *may* have been *maculosus*, as the Hill Tipperah bird certainly *is*.

This is I feel a very vague and unsatisfactory account of the distribution of this species, but materials are wanting, and

* "Seen in the cold weather occasionally in Jessore"—*H. J. Rainey.*

I can only hope that all my readers will shoot and send me specimens of any Button Quails they meet with.

JUDGING BY my own experience, I should say that the Indian Button-Quail normally affected moderately high grass patches; by choice, patches in neglected gardens, groves, and other enclosures, but also frequently grass patches in the midst of forests, in scrub jungle, in fallow fields, or even on the margins of cultivated ones. I have never met with it in open sandy places, nor on low gravelly uplands, and I can scarcely ever remember to have flushed it out of any growing crops, though I have found it in thick grass growing along the edges of these.

Still, I have seen comparatively few, and have paid no special attention to the subject; and Colonel Tickell says "this is a solitary bird, found scattered about here and there throughout Bengal in open, sandy, bushy places in and about jungles or fields and dry meadows in cultivated country; frequently in low, gravelly hills or uplands of 'khunkur' (nodular limestone). It is met with on both sides of the Ganges, at least as high up as Benares."

Jerdon also tells us that—

"This species is found in open grassy glades in forests or jungles, both on the plains and, more especially, in hilly countries, and is also found in grass jungles throughout Bengal, and the countries to the eastward (?). It is always seen singly, in patches of long grass or thick cultivation, flying but a short distance, and is very difficult to flush a second time."

Perhaps, therefore, the bird is not elsewhere so wedded to the grass as I have always found it in the North-Western Provinces, Oudh, and the Central Provinces.

It is, as both authors quoted truly say, a very solitary and, I may add, (except possibly during the breeding season), a very silent bird. You *may* flush several, though this is rare, out of a small patch, say half an acre of grass; but I do not think I ever put up more than one at a time, or that I ever heard one call, at any rate to recognize its note.

Its flight is even feebler and shorter than that of the Bustard-Quail; it rises only when you are about to step on it, with occasionally a low double chirp, barely audible to my ears. When flushed, it rises with much less noise and whirr than do the Bustard-Quails. It glides, bee-like, through the air for a few paces, just skimming the waving tops of the grass, and drops suddenly, as if paralysed, almost before you can bring your gun to the shoulder.

Smart little dogs will readily find it after it has thus dropped, and as often as not (so pertinaciously does it cling to its hiding place) will seize it on the ground, but with only beaters it is almost useless trying to put up one of these Button-Quails a second time.

Nor, except to ornithologists, is it worth while attempting to do this. Tickell, no doubt, talking of this and the next species, tells us that "the two species are so nearly alike as to be easily confounded together, especially in the cold season, when they are often put up out of stubble amongst real Quail, and occasionally fall to the gun, though usually they are allowed, when flushed, to pursue the even tenor of their way, accompanied by a parting salutation of 'Oh, it's only a button!' Why the poor thing should always be treated with such contempt is not easily understood, for it is most delicious eating, and when in good plight, as fat and delicate as an Ortolan; but I dare say the chick-a-biddy is glad enough to have an imprecation sent after it instead of a charge of shot."

For my part (perhaps I never did get one "in good plight"), I have always found them, insignificant, dry, insipid little things, not as good even as the Larks, Pippits and Wheatears that everywhere swarm in Upper India; and while I deeply regret the bad language which Col. Tickell's friends thought it necessary to use in regard to these, I quite endorse their refusal to waste whole charges upon Button-Quail.

Like all the Quails, they may be occasionally seen at early morn and eve feeding along the paths running through, or in tiny open spaces in the midst of, the grass they live in. I have never seen them in fields or stubbles, nor had any of the few I have examined eaten any grain, only grass seeds and small black fragments, which might have been portions of small hard seeds or of tiny coleoptera.

I have observed nothing further about this species myself, the fact being that to learn much about it one must watch it carefully and patiently, which I have never done.

Captain Butler writes :—

"The Indian Button-Quail occurs all over the plains of Northern Guzerat wherever there is long grass and scrub jungle intermixed. It is particularly plentiful in the neighbourhood of Deesa, where I had every opportunity of watching it closely and observing its habits. It is almost always found singly, except in the breeding season, when it may often be seen in pairs."

I KNOW positively nothing myself of the nidification of this species, but I gather from what Captain Butler says that, amongst the Button-Quails, the natural order of things is followed and the female sits. He says :—

"I found a nest near Deesa on the 15th July 1875 containing four slightly incubated eggs. It was composed of soft blades of dry grass, reminding one of the nest of a field mouse and many half-covered nests which I have seen of *Mirafra cantillans*—the entrance hole being on one side and extending nearly to the top of the nest. It was placed at the

foot of a tussock of coarse grass in a preserve, and the old bird allowed me to put my foot within a few inches of her before she flew off. After leaving the nest she fluttered along the ground for four or five yards, and then feigned lameness, broken wings, &c., like other members of the family. I snared her at the nest when she returned shortly afterwards.

"The eggs are very handsome and considerably smaller than those of the Indian Bustard-Quail. They are of a dirty yellowish white colour, thickly speckled, spotted and blotched all over with brownish black, with occasional spots and markings of inky purple and palish or dingy yellow, the whole combining in forming quite a dark confluent cap at the large end. The eggs are very broad and almost round at the large end, very small and pointed at the other, and the shell is highly glossed."

One of these eggs measured 0·84 by 0·63.

Captain Oldham, of the 12th Regiment, K. G., sent me an egg with the following note:—

"I took the egg from the body of a Larger Button-Quail. This Quail I shot with others on the 26th of this month (August) near this station (Sialkot) in fields of Indian-corn and cotton. As Jerdon says he knows nothing of the breeding of this species, you may perhaps care to have the egg. The other Quails shot were the Rain-Quail and the Lesser Button-Quail, but the Larger Button-Quail predominated. There were evidently several pairs."

This egg is of the ordinary *Turnix* type. In shape it is a very broad oval, but pointed towards one end; in fact, more than half the egg is spherical, the remaining portion is, as it were, pinched out into a point, and this is not an uncommon shape amongst the eggs of this genus. The shell is glossless. The ground colour is a dull white, very minutely speckled all over with pale yellowish brown and inky purple. The markings are most dense at the more obtuse end of the egg, where they are intermingled with a few small inky grey clouds. Another egg of this species, received from Mr. Blewitt of Raipur, together with the parent bird, but unfortunately without particulars, is similar in size and shape, and in the general character of its markings, but has a slight gloss; the ground colour is yellowish stone colour, the markings are brighter-coloured, and the inky clouds and spots darker and more numerous.

These two eggs measure—the first 0·88 by 0·77, and the second 0·85 by 0·73.

I HAVE no detailed measurements of females, which are larger than the males. Three *males* varied as follows:—

Length, 5·87 to 6·12; expanse, 10·0 to 11·0; wing, 3·0 to 3·15; tail from vent, 1·12 to 1·5; tarsus, 0·8; bill from gape, 0·62 to 0·69; weight, 1·2 to 1·5 oz.

Referring to skins, I find that the wings of the *males* vary from 3·0 to 3·25, and those of the *females* from 3·3 to 3·55.

Of one male, I have recorded—bill ; culmen, and tip of lower mandible dark brown ; rest of bill orange yellow ; legs and feet pale orange yellow ; irides white. Of a female, the bill, legs and feet all bright orange yellow.

THE PLATE is on the whole fair, but the grey tint employed on the wing of the right-hand figure is much too pure and blue; it should have been a grey *brown.* For further remarks in regard to the plate, see those in regard to the plate of the preceding species.

J. Waller, Chromo Lith. 18 Hatton Garden London

2/3
TURNIX DUSSUMIERI

THE LITTLE BUTTON QUAIL.

Turnix dussumieri, *Temminck.*

Vernacular Names.—[Chota lowa, Dubki, Turra (Hindustani); Chimnaj, *Muttra;* Libbia, *Purneah*; Tatu-buteyra, *Sind;* Durwi (Mahrathi), *Ratnagiri;* Chinna (or tella) dabba gúndlu, (Telegu); Sán gúndlu, *Orissa*;]

THE Little Button Quail is a comparatively common and widely-distributed species, and yet I am unable to define its range with any precision.

It has not been recorded from any part of British Burma, Tenasserim, Pegu or Aracan, nor have I any record of its occurrence in Chittagong or Tipperah, or any part of Assam, except the Khásia Hills, and it is rare,* I think, in the low deltaic districts of Bengal.

Again, I cannot *ascertain* that it has been observed in Ceylon † or in the southernmost districts of the Peninsula, or, in fact (though it doubtless does so occur), anywhere south of Mysore. Lastly, I do not know whether this species extends into the Trans-Indus portions of the Punjab.

Excluding these outlying regions (in some of which it will certainly prove to occur), the Little Button Quail is found in suitable localities throughout the less-elevated portions of the rest of the Empire, extending in summer into the valleys and lower ranges of the Himalayas up to an elevation of about 6,000 feet from Sikhim to, at any rate, as far west as Simla, close to which, at Syree, I have myself procured it.

I am inclined to believe that it is only a monsoon visitant to the greater portion of the Punjab and Rajputana, to Sind, and probably Cutch and Káthiáwár also.

I said above, advisedly, " suitable localities," because it avoids wet swampy tracts, whilst they are this, though it may be found even in jhíls when they and the surrounding country have dried up ; because it equally eschews the more arid, semi-desert

* Mr. H. J. Rainey remarks:—"In the Jessore district it is a permanent resident. Not numerous. Breeds during the rains, I believe. It lies very close, and I have frequently seen natives capture it by throwing a cloth over and around the spot in the grass on which it has been seen to drop after being flushed."

† Mr. A. Whyte, however, writes that "a very small Button Quail is reported from the highest Patena grounds in the island, but I have never succeeded in procuring a specimen." So possibly this species does occur in Ceylon.

tracts of Rajputana, Sind, &c., though it may be found in these during the rainy season, and because, lastly, it shuns heavy forest and dense jungle, and I think, except in the case of the Himalayas in summer, mountains generally.

There are, therefore, wide tracts, even within the limits which I have approximately indicated, in which it does not, I believe, occur ; and nothing but the co-operation of sportsmen all over the country will enable us to obtain a really correct notion of the actual distribution within our limits of this very pretty little species.

Outside our limits, it has as yet only been recorded from Formosa. It has not been observed in any other part of China, and it is just possible that it may have been *introduced* into Formosa, as the Eastern or Chinese Francolin has been introduced into Mauritius,

---

IN UPPER INDIA I have almost exclusively met with it in patches of low, dense grass, and most generally in patches of this nature situated in Dhak, (*Butea frondosa*,) or other thin bush or tree jungles. Occasionally I have flushed it from low crops, and not unfrequently from belts of grass surrounding and dividing fields of these.

It is hard to find without dogs, only rises when hard pressed, rises almost silently, sails away for a dozen yards like some large bee, and drops suddenly into some dense tuft of grass whence, as a rule, it makes no attempt to run, and where the dogs will often pounce upon it.

I have once or twice seen it feeding in the early mornings in the little open spaces intervening between thinly-set tufts of grass growing in lands which are flooded during the rains. During these latter I have seen them gliding like little mice about the paths of my own and other gardens, where there was plenty of moderately-high fine grass. Two or three shot during the cold season had eaten only grass seeds, while two shot in my garden in Etáwah had fed almost exclusively on termites.

I cannot say that I have ever noticed their call, and I believe that they are generally very silent birds. I really know so little about this species, though I have probably seen ten times as many of these as I have of the Indian Button Quail, that I am fain to quote what little others have recorded about it.

Colonel Sykes remarked that " they affect thick, short grass and fields of pulse of *Dolichos biflorus*, *Phaseolas max*, and *Ervum lens*. I never found the bird otherwise than solitary. It is so difficult to flush that it not unfreqently rises from beneath the feet, and when on the wing, its flight is so abrupt, angular, and short, that it is generally down ere the gun is well up to the shoulder."

Dr. Jerdon tells us that this species "occurs through the whole* of India (not, however, affecting hilly or forest districts) in grass, corn-fields, and wherever there is thick herbage. It is flushed with great difficulty, often getting up at your very feet, flies but a few yards, and drops down again into the grass, not to be re-flushed but after a most laborious search, and sometimes allowing itself to be caught by the hand or by a dog. Its name of *Dubki*, signifying 'squatter,' is given from this habit. It has a low plaintive moan of a single note."

Col. Tickell says:—

"A favorite haunt in jungly country are those sandy tracts of ground where trees do not thrive, but are replaced by scattered *bér* and similar bushes and patches of wire grass. In these the bird lies so close and snug that it may almost be trodden on before it takes wing, and then will sometimes fly for a few yards only. When once settled, it appears determined not to rise again; and the cowherd boys in India are so well aware of this propensity that, as soon as one is marked down, they rush in, follow it up quickly through the grass, and knock it on the head with a stick."

Mr. Reid writes to me:—

"The Indian and Little Button Quails, though not by any means common, are everywhere distributed throughout the Lucknow division. Except in the early morning, when they may be found feeding in open glades, they are difficult to flush, and when once flushed, fired at and missed, will seldom rise again, and may then, if discovered, be easily taken by the hand or killed with a stick. This is more especially the case with the Little Button, one of which I myself captured alive after an unsuccessful shot.

"These birds are, I think, fonder of shade than most of the Quail tribe, being generally found in lonely groves overgrown with grass, or in gardens or groves surrounded and intersected by rows of thatching and other long grasses."

Mr. G. Vidal reports that "the Little Button Quail (which the natives there call by the same name as the Indian Bustard Quail) is found throughout the Ratnagiri district, but is nowhere common or abundant. Sometimes it is flushed in crops when beating for Grey and Rain Quail, but more often on the skirts of thick temple groves, into the cover of which it sneaks on the first alarm. It is usually solitary, occasionally in pairs, but never in coveys."

Captain Butler, who is familiar with its call, informs me that "the note of this species is remarkable, being a mixture of a 'purr' and a 'coo,' and when uttering it the bird raises its feathers and turns and twists about much in the same way as an old cock pigeon. I have often watched them in the act of cooing within a few yards of me. If an old bird gets separated from

* This must be taken *cum grano*. There is no evidence of such a wide and universal distribution.

one of its young ones, it is sure to commence making this peculiar noise."

Mr. J. Davidson, C.S., remarks:—

"Except amongst the native fowlers (*Phansi pardis*), I have noticed that natives always consider this species to be the young of one of the bigger Quails.

"I have never found it *very* common or in any great numbers in any one spot, but neither has it been rare in any district in which I have been stationed.

"In the Sholapur district it was always to be found in the grass reserves and amongst the grain fields, and it was by no means rare either in the Pánch Mahál's or in Túmkúr, Mysore, though very difficult to flush."

THE LITTLE Button Quail is I believe, as I have already noted, to a considerable extent migratory, visiting and breeding in the Himalayas and other parts of Northern and Western India, where it is not seen except during the breeding season.

This species lays from April to October, according to season and locality, making its nest on the ground in some standing crop or patch of grass; a slight depression in the soil, artificial or natural, and thinly or thickly lined with grass. Occasionally I have heard of partially or wholly domed or covered-in nests being found.

Four appears to be the usual number of eggs laid, but five and even six are said to have been found.

Mr. W. Blewitt found a nest near Hánsi in the Dhana Beerh (or grass reserve) on the 16th April. It was a mere depression scratched in the ground, at the base of, and completely overhung and concealed by, a dense tuft of soft grass, and very slightly lined with a few blades of the same grass, so few that it was impossible to say whether they had fallen there by accident or had been placed there by the bird.

The nest contained only two fresh eggs.

Mr. W. Theobald, narrating his experiences of the nidification of this species in the Salt Range (Punjab), remarks that they "lay in the third week of August. Eggs, five. Shape, round pyriform. Colour, pale gray, closely freckled with dirty yellowish ochre, with a few dots of neutral, and blotched with deep reddish brown or blackish umber. Nest, a little grass, hemp, yarn, and a few hairs on the ground in a field of bajra."

Mr. J. Davidson says: "I think, on the whole, that the Little Button is rather a late breeder. In Sholapur I got, or had brought to me, four nests, one on the 17th of August and the others at the very end of September, and I shot a hen in October 1878 containing an unshelled egg.

"In the Pánch Mahál's I shot a bird containing a perfect very highly coloured egg late in October, but the cook unfortu-

nately cracked it while plucking the bird. On the same day I came on four young chicks, certainly not more than a day or two old.

"The nest, like that of *T. taigoor*, is a well made pad of grass. One I took at Sholapur was placed in a field of low bajra and was formed in a hollow on the ground,—such a hollow as would be caused by the imprint of a cow's foot,—which was well lined with fine grass. The eggs *seem* never to exceed four in number, and are placed like those of Plover with the small end in the centre."

Captain E. A. Butler writes to me:—"On the 27th July 1875 I found a Little Button chick, about half grown, in a grass reserve near Deesa. In this case the eggs must have been laid in June. The old bird rose at my feet in some thick coarse grass, and on looking down I saw the young one trying to hide itself under a tussock. It could scarcely fly, and I caught it, took it home, and reared it in a cage. In confinement it lived almost exclusively on white ants until full grown, after which it fed upon seed. On the 18th July 1876 I caught two young birds, about a month or five weeks old, in the same reserve, so that in this case the eggs must have been laid about the 25th May. On the 29th July, in the same place, I found a nest containing four fresh eggs. The nest was a mere depression in the ground, scratched apparently by the old birds, with a scanty lining of short pieces of dry grass, &c., similar in every respect to the nest of *T. taigoor*. The eggs, however, are smaller than the eggs of that species, of a pale yellowish white colour, covered all over, but most densely at the large end, with bold spots and blotches of blackish brown underlaid with numerous specks, spots, &c., of yellow and pale lavender."

I have seen too few eggs of this species to be certain of the fact, but it appears to me that the eggs are by no means so much smaller than those of the Indian Button Quail as might have been expected.

The eggs are moderately broad ovals, much pointed towards one end, and very fairly glossy. They have a pale yellowish stone-coloured ground, minutely freckled all over with specks of yellowish and greyish brown, overlaid with somewhat larger streaks, spots, and mottlings of dark earthy brown, varying in shade in different eggs, and often much more dense towards the large end, where, in some, they form a sort of mottled irregular cap. Small spots or clouds of pale inky purple are usually scattered amidst the other markings.

The eggs that I have seen have only varied from 0·84 to 0·88 in length, and from 0·65 to 0·68 in breadth.

I HAVE but few measurements of this species. The females appear to be somewhat, but not very markedly, larger than the males.

Males.—Length, 5·2 to 5·4 ; expanse, 9·5 to 10·5 ; wing, 2·76 to 2·9; tail from vent, 1·25 to 1·35; tarsus, 0·7 to 0·72 ; bill from gape, 0·5 to 0·55 ; weight, 1·1 ozs to 1·4 ozs.

Females.—Length, 5·4 to 5·7; expanse, 9·8 to 10·7; wing, 2·8 to 3·0 ; tail from vent, 1·3 to 1·5 ; tarsus, 0·7 to 0·75 ; bill from gape, 0·51 to 0·56 ; weight, 1·25 to 1·5 ozs.

These measurements, taken from only six birds, and two of these, I suspect, not quite adults, probably do not adequately represent the limits within which the dimensions of this species vary.

The legs and feet vary from pale fleshy white to light lead colour ; the bills from leaden white to lavender or plumbeous ; the irides are light yellow to straw white.

THE PLATE very fairly represent the specimens figured. The figure in the background to the right is a very accurate likeness of a young bird. The figures in the foreground both represent females. In the males there is scarcely any rufous in the plumage, this being replaced by a slightly rufescent brown; indeed, the males are altogether somewhat duller coloured than the females.

The two adult females figured happen to be particularly brightly coloured specimens, and the central bird has a number of bright rufous splashes on the side of the breast which are rarely so much developed. It is a pity that no front view of the bird is given. The chin and throat are pure white ; the middle of the breast slightly rusty buff, the sides of the breast very pale buff, with two or three rows of nearly round blackish brown spots.

♂ ♀
TURNIX ALBIVENTRIS

THE NICOBAR BUTTON QUAIL.

Turnix albiventris, *Hume.*

Vernacular Names.—[Mool (Nicobarese) *Camorta.*]

WE only actually observed this Quail in the islands of Bompoka, Camorta, and Tiressa, but it doubtless occurs throughout the group where grass-covered uplands and hills exist.

We also obtained it both near Port Blair and near Port Mouat of the South Andaman; but in the Andamans there is but little grass, dense forests occupying almost the entire surface where this has not been cleared for cultivation, and there are few localities in these islands suitable to its tastes.

I believe its home to be in the Nicobars, and I look upon it as a mere emigrant to the Andamans.

It has not been procured as yet outside these two groups of islands, but it may yet prove to occur in North-Western Sumatra.

It appears, now that we have a good series, to be a well-marked species, closely allied indeed to some of the insular forms described of late years from further east, but distinct from all.

THERE IS very little to be said of its habits, which appear to resemble closely those of the Indian and Little Button Quails. It is never found in forest, only in the open grassy uplands which constitute the distinctive character of the scenery of the Nicobars, or in gardens or cultivation surrounded by, or adjacent to, these.

They are generally found singly, never in coveys (unless perhaps whilst the broods are very young); they rise without much whirr and very reluctantly, and drop again into the grass very speedily.

No one appears ever to have noticed their call.

The specimens examined proved to have fed entirely on small seeds.

Long ago Davison said:—

" This Quail is very rare at the Andamans, where I only once saw it and obtained one very indifferent specimen; but at the

Nicobars, at least on Camorta Island, it is not uncommon, frequenting the long grass, occasionally straying into gardens, &c. I have never seen them in coveys, but have found them usually in pairs, sometimes singly; they are difficult to get, as they will not rise without being almost trodden on. When they do rise, they only fly such a short distance that it would be impossible to fire without blowing them to pieces, and then they drop again into the long grass, from which it is almost impossible to flush them a second time. I found them most numerous in the large grassy tracts in the interior of Camorta."

Since then, though we have obtained many specimens, we have learnt little more about the life history of the species.

Of the nidification nothing is known, but the eggs will probably prove to be barely separable from those of *T. joudera*, though the plumage of the bird is different enough.

The following are dimensions of a pair of apparently perfect adults:—

Male.—Length, 6·0; expanse, 10·25; wing, 3·0; tail from vent, 1·25; tarsus, 0·9; bill from gape, 0·65; weight, 1·4 ozs.

Female.—Length, 6·5; expanse, 10·5; wing, 3·12; tail from vent, 1·4; tarsus, 0·9; bill from gape, 0·7; weight, 1·75 ozs.

In both the irides were white; in the male the legs and feet were yellow, tinged orange or chrome yellow; the upper mandible horny brown, yellowish at the gape; the lower mandible yellow, tipped horny. In the female the legs and feet were pale yellow; the entire bill yellow, the extreme tips only of the two mandibles being brownish.

These were the only two specimens which we measured in the flesh, but I find that the wings in dry skins vary in the males from 2·95 to 3·1, and in females from 3·1 to 3·3.

The plate is a pretty picture, and fairly represents a pair (the female on the left with its broad chestnut nuchal half-collar); but the colours are a little too bright, and the delicate markings of the plumage have not been what I call thoroughly worked out, and I think it best, the bird being so rare and little known, to give an exact description of both sexes.

In the male the lores and a circle round the eye are pale fulvous; the point of the forehead and two broad stripes running over the crown down to the nape are black, each feather narrowly margined with bright chestnut. These stripes are divided by a narrow line beginning opposite the centre of the eyes, mingled fulvous white and very pale rufescent; the ear-coverts are fulvous tipped darker; the sides of the neck, immediately behind the ears, are fulvous buff, spotted with black; below this, the sides and back of the neck, the interscapulary

region, and the scapulars are bright chestnut, more or less variegated with yellowish white and black.

The centre and lower portion of the back, rump, and upper tail-coverts are black or blackish brown; the feathers fringed at the tips with bright rufous or chestnut, with one or more freckled bars of the same colour towards the tips, and some of the tail-coverts and some of the lateral feathers of the back with yellowish white spots or streaks on the outer margin; the tail feathers, which are completely hidden by the upper tail-coverts, are greyish brown, with obsolete blackish brown bars; the primaries, secondaries, and the greater coverts of the former are very pale satin brown; the outer web of the first primary nearly white, and all the rest of the quills, which pale towards their tips, excessively narrowly edged with pale fulvous; the tertiaries are more of a pinkish brown, mottled with blackish brown towards their tips, and with a yellowish brown spot there on the outer webs. Their coverts and most of the secondary coverts, fawn coloured or pale buff, with blackish brown, irregularly-shaped spots near the tips; the chin and the upper portion of the throat pure white; the rest of the throat and the middle of the breast light ferruginous; the sides of the breast pale buff with regular, narrow, transverse blackish brown bars. A few circular black spots on either side below where the barring ends. The central portion of the abdomen white; the sides, vent feathers, tibial plumes, flanks, and lower tail-coverts tinged buffy, the two latter most strongly so; some of the feathers of the sides of the upper abdomen with broad subterminal blackish brown spots or imperfect bars.

In the female the black stripes on the head are edged with white and not with chestnut, and the stripe dividing them is white, the feathers with dark brown tips, thus giving the head a totally different appearance. The back of the neck and upper back are occupied by a broad, intensely-bright, chestnut half-collar, entirely unmarked and unspotted, and nearly three-quarters of an inch broad; the ear-coverts, sides of the head, and a line under the eye are pale fulvous, dotted with black; the entire chin, throat, and upper breast are bright ferruginous, only the point of the chin paler; there is no barring on the sides of the breast as in the male, only a few large blackish-brown ovate spots, which continue downwards on the sides and flanks; a few similar but smaller spots adorn the middle portion of the lower breast and upper abdomen. The rest of the plumage is similar to that of the male, but there is a greyer shade on the middle of the back, and the spots on the coverts and tertials are larger and more numerous.

THERE ARE a vast number of species of *Turnix* belonging to at least two different types. The first of these (the Bustard Quails) is fairly represented by *Turnix taigoor*, and this type is separated

26

by some authors as a distinct genus, *Areoturnix*; of the second type (the Button Quails), *T. joudera* will serve as an example.

Intermediate forms occur, and I think it sufficient to retain the one generic name *Turnix* for the whole group.

In addition to the species met with within our limits, we have *T. pugnax* from Java, (doubtfully distinct from our *T. plumbipes*,) *T. ocellata*, *fasciata* and *nigrescens* from the Philippines, *T. rufilata* from Macassar, *T. rostrata* and *blakistoni* (the latter doubtfully distinct from *pugnax*) from China. Besides these, there are three or four species from Africa, one of which, *T. sylvatica*, is found also in Spain and Southern France and Sicily, single specimens having also been recorded from England and Italy.

Madagascar yields at least one species, Australia seven or eight, and, in addition to those already referred to, two or three others have been described from the islands lying between Australia and South-East Asia, and doubtless many closely affined species remain still to be discriminated from the islands of the Archipelago.

W... Chromo Lith. ... Hatton Garden. London.

2/3 CREX BAILLONII.

BAILLON'S CRAKE.

Porzana bailloni, *Vieillot.*

Vernacular Names.—[Jhilli, *Nepal.*]

BAILLON'S Crake occurs, at one season or another, in suitable localities in almost every portion of the mainland of the Indian Empire, except in Tenasserim, south of Tavoy, and in Sind. Even in Sind, where the Little Crake is the common species, one specimen was killed near the Manchur Lake by Mr. Blanford.

The present species is also found in Ceylon and the Andamans.

Outside our limits, Baillon's Crake is found in Afghanistan and Beluchistan, in Turkestan, and eastwards throughout China, in Dauria, South-East Siberia and Japan*

We do not know of its occurrence (though stragglers will probably turn up in some of these) in the Malay Peninsula, Siam, Cochin China, the Nicobars, or any part of the Malay Archipelago, except at Bintulu on the west coast of Borneo.

There seems to be no authentic record of it from Persia (though it may occur there), Arabia, Asia Minor, or Palestine ; but it is found throughout Southern and Central Europe (straggling rarely to Great Britain), the Islands of the Mediterranean, and in a great many localities in Africa from the north to the extreme south, as also in Madeira and Madagascar.

To a great extent this species is a migrant in India, but it is so retiring in its habits, and has as yet been so little watched or attended to, that we are quite unable to give any satisfactory details of its migration.

Certainly this species is, as a rule, more common in the plains of India during the cold season than at any other period. Certainly, also, it is rarely, if ever, met with in the Himalayas (throughout which, from Kashmír to Sikhim, it is found up to elevations of 6,000 feet or possibly somewhat more),

* Its occurrence in the Philippines rests on no sufficient authority.

except during the latter part of the spring, the summer and autumn.

Probably many cross the Himalayas and leave the Empire altogether ; but some few apparently remain to breed everywhere both in Southern and Northern India. Great numbers breed in the lower outer ranges of the Himalayas, and many appear in various portions of the country during the rains or hot season wheie, during the rest of the year, they are never seen. For instance, at Tavoy they were abundant in April and May and during the summer, but had entirely disappeared in November. In the Cantonments of Agra I have repeatedly seen them in gardens in May and June, but have failed to find them anywhere near Agra at any other season. From many localities people write that this species is only a cold weather visitant, while from others they report " seen only during the rains."

On the very imperfeet evidence available, my "working hypothesis" is that a large proportion of our birds are purely cold-weather visitants to the Empire ; that of the remainder a considerable portion move to and breed in the Himalayas during the hot and rainy seasons, and that the rest move about the country a great deal. Some affect wet, low-lying lands during the cold weather, such as the Deltaic districts of Lower Bengal, and move up during the rains to drier (though at that season well-watered) districts. Many residents of jhíls and swamps in drier portions of the country wander into irrigated gardens and groves during the hot weather when their winter homes have dried up ; a great many seem to follow *rice*, wild and cultivated, and disappear from tracts where all this has been cut or has dried away, to re-appear when the rice re-appears.

For, although you may at one time or another find them anywhere, where there is water and cover, on the banks of streams, in irrigated gardens or corn crops, swamps and pieces of water of any kind the banks of which afford grassy, sedgy, or herbaceous cover, there is no such certain find for this species as patches of the wild rice (*pusaiee*) or the grassy margins of fields of cultivated rice, whether on the plains or in the hills.

It is not exclusively confined to fresh water, as Mr. Vidal writes to me that " it is common in the salt marshes and tidal swamps at Ratnagiri, and is often flushed when beating for Snipe."

They are, as a rule, very shy and retiring birds, somewhat hard to flush, and rarely seen in the open except when met with in some secluded piece of water where fowlers never penetrate and guns are seldom even heard. There they may be observed running about briskly over the lotus leaves and other aquatic plants that cover the surface in broad patches, or swimming about merrily from patch to patch, prying under the leaves, to the under sides of which are attached the larvæ which form, in such situations, a large portion of their food.

When disturbed, they instantly dart off to cover, only rising,

even when surprised in the open, when hard pressed. Once in cover, they cannot easily be put up without dogs, but push their way rapidly through rush, reed, and rice stems with a facility doubtless due in a great measure to the wedge-like shape of their bodies, which, like those of the entire family, are excessively compressed laterally and are much deeper than they are wide.

When flushed by dogs or suddenly surprised in thin low grass, standing in water, and thus difficult to progress through, while it affords insufficient concealment, they rise with rapid beats of the wings (apparently with some difficulty, and with their large legs and feet hanging down) and soon drop again, suddenly and Quail-like, into suitable cover. Indeed, seen from a little distance, the colour of the upper surface and the flight generally (once they are well on the wing) remind one much of the Common Quail.

Swimming about, they are miniature Water-Hens, jerking their tails and nodding their heads just like these, and when wounded, like these diving readily and then lying up in amongst the weeds with only their bills above the surface.

It is very rare to find them alone ; as a rule, where you find one you will, if you search carefully, find several, and even if you do not see them, you will, when you hear one call, almost always hear three or four more calling round about.

Their note is peculiar and very loud for the size of the bird ; a single note, repeated slowly at first, and then several times in rapid succession, winding up with a single and somewhat sharper note in a different tone, as if the bird was glad that that performance was over.

Judging from my limited experience, of the next species I should say that the latter more affects broads and lakes, the present species, swamps and rice fields. In other respects there seems very little difference in the life-history of the two species.

Others say that this species feeds very little on anything but insects. I have always found quantities of small seeds and remains of green vegetable matter in the stomachs, besides tiny snail shells, water beetles, and all kinds of aquatic insects and their larvæ. On several occasions I have found the tiny wild rice grains mixed with other food ; but though they keep so much about rice fields, I never noticed that they had eaten paddy, the grains being perhaps too large.

I think they call chiefly during the hot season and rains. I cannot remember ever hearing the familiar note during the winter, though they are noisy birds during the summer, it being at that season scarcely possible to overlook their call, "tootooing" it out as they do morning and evening, and far into the night, on moonlight nights.

THIS SPECIES lays in July, August and September in the plains of India, and in June and July in Kashmír and the

valleys in the lower ranges of the Himalayas containing suitable rice swamps or marshy pools. It is pretty common near Syree, below Simla.

The full number of eggs is, I believe, eight, as we found the fragments of this number of shells round a nest that had hatched off. Six is the greatest number of eggs that I have yet obtained, but then I have only seen two nests with eggs.

The nest is made of rush and weed, completely concealed in water-grass, wild rush, and the like, and is not unfrequently placed well above the water level. At the Achalda Jhíl, Zilla Etáwah, Mr. Brooks and I took a nest of this bird containing three fresh eggs on August 16th, 1867. The nest was of rush and weed, in the midst of grass and wild rice, very little above the water's surface. The eggs were oval, rather glossy, of a pale olive brown, thickly mottled and blurred with specks, spots, and blotches (most numerous at the large ends) of a darker shade of olive brown and of a sort of purplish brown. At Syree, below Simla, at an elevation of about 4,000 feet, I found a precisely similar nest in amongst dense rushes and sedges on the margin of a small swampy pond encircled by rice fields. This was on the 19th June. This nest contained six deeply-set eggs. Next year in July we found no less than three similar nests in the same place, all unfortunately just hatched off.

Captain Butler writes :—" Six eggs of this species were brought to me on 17th September this year (1876) at Milana, 18 miles east of Deesa. They were taken by one of my own nest-seekers in a small clump of bulrushes growing out in a tank ; and the nest which he pointed out to me the following day was built in the rushes about three or four feet above the water, and looked for all the world like a miniature nest of the Common Water-Hen, being composed of the same material (sedge and rush) and constructed in exactly the same manner. The eggs, in size and shape, are much like Rain Quail's eggs, and in colour even are not very different." Hodgson says :—" Almost a permanent resident in the hills and breeds in the rice fields, making a very ingenious nest raised on a sort of platform of twisted rice stalks. It is always found in the crops in spring and autumn,* and wherever there is a crop standing."

The egg is oval, slightly pointed towards one end ; the shell of a firm and compact texture, and with a slight gloss. The ground colour is a sort of a pale olive stone colour or very slightly greenish drab, thickly freckled and mottled with faint dusky clouds and streaks, which, in all the eggs that I have seen, were most densely set towards the large end. The dusky markings in some eggs are a sort of pale sepia, but in others have a distinctly purplish tinge. They appear, however, to be at all times

* Dr. Scully tells me he only observed it in Nepal from July to November, never during the first half of the year.

dull, inconspicuous and ill-defined. The eggs vary in length from 1·1 to 1·22, and in breadth from 0·83 to 0·91.

THE SEXES do not differ appreciably in size, though the dimensions of individuals of each sex vary somewhat.

Length, 6·62 to 7·75; expanse, 10·0 to 11·75; wing, 3·12 to 3·7; tail from vent, 1·75 to 2·2; tarsus, 1·05 to 1·25; bill from gape, 0·68 to 0·78; weight, 1·1 to 1·8 ozs.

The irides are normally red, brick red, crimson, carmine; but in some, probably younger birds, they are orange red and reddish brown, and I have three specimens in which they were recorded as light brown. The legs and feet are green, with a yellowish tinge, some might be called brownish olive, some merely dull green or pale olive green; claws pale brown; the bill is green, dusky on culmen and at tips.

THE PLATE is *not* altogether satisfactory. In the first place, the legs and feet are, as already mentioned, green, and *not* pink, as shown in the plate; in the second place, for nine specimens out of ten, the barring on the sides and flanks is too regular and pronounced, and there is rather too much of it; in the third place, the pure white speckling and smearing on the back, scapulars and tertiaries, is omitted (!)

I may add that, though some females are very like the one figured,* old females become very like the males, except that they remain paler on the lower surface and have the grey on the breast more or less intermingled with pale buffy brown.

This species and the Little Crake are so much alike that it may be well to point out how they may be distinguished.

Baillon's Crake may be recognized by its smaller size, shorter, and in proportion, deeper bill, and by having the back, scapulars, and greater wing-coverts, all, more or less, profusely variegated with a somewhat bluish white; whereas in the Little Crake the corresponding markings, which are rather coarser and of a purer white, are confined as a rule to the centre of the back, though occasionally there is a trace of these on some of the longer scapulars. In Baillon's Crake the outer web of the first primary is nearly entirely white or yellowish white. In the Little Crake it is brown, only slightly paler and yellower than the inner web. Moreover, in the Little Crake there is much less barring on the flanks and under tail-coverts. Again, though possibly this is only seasonal (on this point I cannot speak with certainty), the Little Crake has the base of the bill bright red. Lastly, the adult females of the Little Crake have the entire breast and upper abdomen uniform fulvous fawn, while those of Baillon's Crake have these parts an albescent grey, often only very slightly intermingled or fringed on the breast with brownish fawn.

---

* The right hand figure in the plate.

½

PORZANA PARVA

THE LITTLE CRAKE.

---o---

Porzana parva, *Scopoli.*

---o---

Vernacular Names.—[? None.]

---o---

SO far as we yet know, this species is found, inside our limits, only in Sind.

Elsewhere, it occurs pretty well all over Europe (becoming an exceedingly rare visitant towards the north), in Algiers and the Islands of the Mediterranean. In Asia it has only as yet been recorded from Erzeroum and Eastern Turkestan, but these are birds that generally escape notice, and doubtless its range will prove to be more extended than is at present supposed.

I FOUND this species very common in the less-frequented broads (or "dhunds," as they are locally called), in Sind, Trans-Indus—Cis-Indus it is Baillon's Crake I think that occurs.

I never flushed these out of sedge or reed, but found them everywhere running about over the lotus and water-lily leaves, or swimming about from leaf to leaf, and exhibiting far less timidity than Baillon's Crake. Like this latter, they look, when in the water, exactly like tiny Water-hens, jerking their tails and nodding their heads precisely like these. But one thing I noticed in this species which I never observed in either of the others—I saw one bird voluntarily diving several times, apparently in search of food. The others will dive when a shot is suddenly fired near them or when wounded, but this bird was deliberately diving for its own amusement.

When pressed, they rose more readily and flew more strongly than Baillon's Crake, taking refuge in the thickets of tamarisk that fringed the broads and were studded about most of them as islands.

I never heard the call of this species, probably because I only observed them in the winter months; it is said by Naumann to be loud and to resemble the syllable "*kik*," "*kik*," fre-frequently uttered.

The food of this species seems to consist far more exclusively of insects than that of Baillon's Crake. In more than a dozen

specimens that I examined the stomachs contained water bugs and beetles, small insects of all kinds, and larvæ of various, to me quite unknown, species, with only here and there a few small black seeds and a trace of vegetable matter; of course, as is the case with Baillon's Crake, there were a good many minute pebbles or fragments of quartz, coarse sand in fact, mixed with the food, in the trituration of which it no doubt plays an important part.

No one has yet taken the eggs of this species in Sind. The boatmen assured me that the birds bred there regularly, but I think this requires confirmation.

Dresser, speaking of Dr. Kutter's account of the nidification of this species (J. F. O., 1865, p. 334 *et seq*), says:

"The first nest found by him, which contained three eggs, he describes as being carefully constructed of dry, worn flag-leaves, rather flat in form, the outside diameter being five and a half inches, the diameter of the cup three and a half inches, and the depth of the cup one inch. It was placed about a foot above the surface of the water, and rested against a dead alder branch, being carefully concealed by the surrounding reed grass. A second nest was rather carelessly built on dead aquatic herbage, only a few inches above the water; and another was built of dry sedge-grass. So far as he could ascertain, eight seems to be the full complement of eggs deposited by this Crake. I possess a tolerably large series of its eggs, which differ from those of Baillon's Crake in being larger and paler, the ground colour more ochreous, and the surface spots more scattered."

In this species the males are persistently larger (I speak of perfect adults of course) than the females, as the following *résumé* of the measurements of six birds of each sex will show:—

Males.—Length, 8·0 to 8·3; expanse, 12·0 to 12·8; wing, 4·0 to 4·2; tail from vent, 2·5 to 2·6; tarsus, 1·2 to 1·25; bill from gape, 0·87 to 0·95; weight, 1·5 to 1·9 ozs.

Females.—Length, 7·75 to 8·0; expanse, 11·5 to 12·2; wing, 3·7 to 3·9; tail from vent, 2·25 to 2·4; tarsus, 1·16 to 1·2; bill from gape, 0·83 to 0·89; weight, 1·25 to 1·6 ozs.

I have recorded the irides as red; the bill, legs, and feet green with a yellowish tinge. I have *not* noted in any one case that the basal portions of both mandibles were red, yet all European writers attest this fact. My dry specimens do not show a trace of this, but neither does one specimen I have from Galicia. Did I omit to record the red at the base of the bill in *every one* of the many specimens I preserved, many of them clearly old adults, or is it possible that the red at the base of the bill is

only seasonal? I see that Naumann says* that in dead and stuffed birds only a feeble trace of the red remains, and that in young birds it is very inconspicuous, but my specimens show *no* trace of it, and they are none of them young.

THE PLATE is tolerable, but fails to show the white spotting of the back, and the under surface of none of our Indian (or, I may add, my European) specimens of females is *pink*, as depicted. Dresser indeed says:—"Lower throat, breast and abdomen flesh-pink with an ochreous tinge;" but in no specimen before me are these parts other than fulvous fawn, without the smallest intermixture of pink. Possibly this pink shade also may be seasonal.

* Vögel Deutschlands, XI., p. 550.

T. Walter [illegible] Hatton Garden London.

2/3

PORZANA MARUETTA

THE SPOTTED CRAKE.

—o—

Porzana maruetta, *Leach.*

—o—

Vernacular Names.—[Kheyri, Gurguri-kheyri (Bengali) ; Venna mudi-kodi (Telegu) ; Teerturuk, *Kabul ;*]

—o—

DR. JERDON tells us that this species is found all over India, and this, in a certain restricted sense, is perhaps true ; but it is on the whole so rare a bird, of such very retiring habits, and so very locally distributed, that it is very difficult to say to what districts it does or does not extend.

I only know for certain of its occurrence in various parts of the Deccan, in Guzerat, and the Pánch Mah́als, in various parts of Rajputana, Sind, and the Punjab up to Pesháwar on the west, and again to Kotgarh and Rámpur on the north (both far in the interior of the Himalayas, but in the valley of the Sutlej), in many parts of the North-Western Provinces (including Bundelkhand), Oudh, and Bengal, in the Deltaic districts of which latter, as about Calcutta, it is commoner than in any other part of the Empire with which I am acquainted.

Blyth states that it has been sent from Aracan.

I cannot ascertain that it has been procured (though very likely it may have been) in Ceylon or any part of the southern portion of the Peninsula, in the eastern portions of the Madras Presidency, Mysore, the Nizam's Territories, the Central Provinces or Berar. Ball does not include it in his list "From the Ganges to the Godavery." Mr. Blewitt, who worked Raipur and Sambalpur so exhaustively, never procured it there. There seems to be no record of its occurrence in any part of Bengal east of the Brahmaputra, or in Assam, and it does not, so far as we know, extend to either Tenasserim or Pegu.

Here again the evidence is so imperfect that no definite assertions can be ventured ; but from the limited data available, it would seem to me that this species, which is purely (I believe) a cold-weather visitant to India, enters the Empire in two streams. The one coming from the north from Yárkand and Eastern Turkestan *viâ* Le, sweeps thence down the valleys of the Jumna and Ganges, and occupies the North-Western Provinces, Oudh, Bundelkhand and Lower Bengal (and birds of this stream

might now and then be blown on to the Coast of Aracan), and the other entering from the west sweeps over the Punjab, Rajputana, Sind, Guzerat and the Deccan to about as far south as Mysore.

Doubtless future investigations will show that individual members of these swarms extend as stragglers to many places whence none have as yet been recorded ; but I think that in its main features this hypothesis will prove correct.

Of the northern migration we have direct evidence. On the 24th September the first Yárkand expedition captured a specimen of this species at the Karatagh Lake on the Karakorum (elevation 16,000 feet), which is in a direct line between the plains of Yárkand and Le. The bird was clearly a migrant,—a tired bird that had dropped out of a flight, and that was easily caught by the hand. The lake lies in perfectly bare shingle, without a particle of grass or sedge about it, so that only a wearied traveller would have halted there. Again, on the 21st of September, some years later, the third Yárkand mission captured a similar tired migrant, at Toghrasee (elevation 11,265), which is in the same line and just 52 miles north of the Karatagh.

Of the western migration we only know that three specimens from Pesháwar, Kohát, and Dera Ismail Khan,—the only ones I have seen from these localities,—were obtained early in October.

Outside our limits, we know that this species is common in the summer in the marshes of Yárkand, occurs and breeds in Eastern Turkestan, is common in Kabul, and has occurred in Beluchistan and Persia (indeed is common, De Filippi states, in spring at Veramin, south-east of Teheran), and in Asia Minor. It does not appear to occur in any part of Asia, outside our Empire, east of Kashgar, and if it has really occurred in Aracan, that must for the present be considered the easternmost point to which this species has ever attained.*

It seems to occur all over Europe and Northern Africa, the great majority being summer migrants to the northern-half and winter visitants to the southern-half of this vast tract.

THERE ARE few birds that I have ever shot of whose life-histories I know less. Unlike the Little and, in a minor degree, Baillon's Crake, this species is never seen running about on the leaves of aquatic plants, or indeed, I believe, anywhere in the open, in *this* country. Dense rice fields are almost the only localities in which I have ever found it, but I have known it also shot out of thick rushes and sedge. I have never seen it, except when, unexpectedly flushed, it rose just before one with a heavy laboured flight, its large legs hanging down behind, to plump down, if not shot at once, within twenty or thirty yards, never again to be seen, beat and bustle as one might.

* Pallas doubtless seems to intend it to be understood that it occurs in Eastern Siberia, but later writers do not confirm this, and Taczanowski does not admit it into his list of the Birds of Eastern Siberia, which is the latest and best Review of the Avifauna of that region that I have seen.

As a rule I believe that, during the cold season in India, this species is a very silent bird. Only once have I certainly heard its note, and that was in April in the Dún.

It is also, I should say, much less gregarious than Baillon's Crake. I never remember, even when I always had good dogs with me, putting up more than a pair in the same place, and far more commonly you only find a single bird.

I have already mentioned that this species arrives in India towards the end of September. I may add that the great majority seem to leave Lower Bengal in March, when they certainly become more numerous in Upper India, and this latter, before the end of April; but I have known specimens killed near Delhi on the 1st of May, and in the Dún on the 10th of that month, and in the valley of the Sutlej, near Rámpur (far in the interior of the Himalayas), on the 15th, so that they probably move northwards by easy stages.

It seems just possible that, as in the case of the Grey Quail, some few birds *may* remain as accidental stragglers to breed in this country.

Dresser thus summarizes what is on record of the habits and haunts of this species in Europe:—

"It frequents swampy localities, where aquatic herbage is abundant, and where it can find good shelter; and it is extremely difficult to force it to take wing when it is in the dense cover of the reeds, through which it creeps and glides with the greatest ease. When followed by a dog, it invariably seeks to escape by running and hiding; and it is only when hard pressed that it will take wing, to fly only a short distance, and again seek shelter amongst the reeds.

"It is by no means a shy bird; and, as a rule, is not afraid of man, unless it is much disturbed; and if one moves about quietly, and when in the vicinity of the bird remains quite still, it can often be watched without much difficulty. Its call-note is a clear loud KWEET, which is seldom heard during the day-time, but most frequently in the evening or at night; and Naumann remarks that the note with which the sexes call each other is low and seldom heard unless everything else is quiet; and he likens it to a heavy drop falling from a height of several feet into a vessel of water. This bird feeds on aquatic insects and insect-larvæ, small worms and small snails, as well as tender shoots of water-herbage and grass-seeds, and usually seeks its food in shallow water or on moist and swampy ground, on the edge of ditches, &c., &c."

I KNOW nothing of the nidification of this species, which, so far as we yet know, does not breed within our limits. Dresser, following Naumann and others, says:—

"It always selects a wet place for the purpose of nidification; and the nest is not unfrequently placed so that the bird can

only reach it by swimming, which it can readily do ; for it swims with grace and ease, jerking its head as it paddles along. The nest of the Spotted Crake, resembling that of the Water-Rail, is a careless, bulky structure of flags, dried reeds, and leaves of aquatic plants, lined with finer materials ; and the eggs, from nine to twelve in number, are deposited in May or early in June. They are oval in shape, the surface of the shell being smooth and rather glossy. In ground-colour they are warm ochreous or dull ochreous marked with fine dots, with violet-grey shell markings and reddish brown spots and blotches, which are tolerably regularly scattered over the surface of the shell. In size those in my collection vary from 1·28 by 0·95 to 1·42 by 0·98 inch.

"The nest is exceedingly difficult to find, being very carefully concealed amongst the reeds or long aquatic grass, and is placed either on the damp ground or on a platform of broken down reeds in the water."

EUROPEAN writers say that the females are rather smaller than the males. My series of measurements show absolutely no difference of this kind, though individuals of both sexes, apparently adult, vary very much in dimensions :—

Length, 8·7 to 9·2 ; expanse, 14·5 to 15·7 ; wing, 4·3 to 4·8 ; tail from vent, 1·85 to 2·1 ; tarsus, 1·21 to 1·43 ; bill from gape, 0·77 to 0·9 ; weight, 3 to 4 ozs.

The legs and feet are generally bright olive green ; the irides reddish brown : the tip of the lower and the greater part of the upper mandible dusky olive green ; the basal two-thirds of lower mandible and a band at base of the upper one wax yellow with an orange tinge on culmen, and a red spot at the base of the maxilla on either side.

But there are marked variations : I have recorded the irides as dark red, brownish yellow, and lightish brown, in the case of particular birds. In a young bird, lower mandible (except tip) and the base of upper mandible green, the rest blackish, and of this the legs and feet were purplish dusky, and I shot one specimen, an adult, of which the legs and feet were a sort of dull orange !

THE PLATE will suffice to enable the species to be recognized, but it is not altogether satisfactory ; the bills are not quite correctly coloured,—the normal colouration I have already described. In the male the back is much too dark, and not enough of an olive brown ; the white markings on the wings are much too regular and scale-like. In the female the white markings on the wings are altogether omitted. In both sexes the broad bandings of the flanks are drawn too regularly and too dark. Moreover, I may add that in really adult males the white spotting nearly entirely disappears from the breast, and is never in either sex in the regular rows that the plate represents.

F Walter Chromo Lith. 18, Hatton Garden, London

$\frac{1}{2}$

PORZANA _ BICOLOR & FUSCA.

THE RUDDY CRAKE.*

——o——

Porzana fusca, *Linné.*

——o——

Vernacular Names.—[Chota Boder, *Nepal;* Yaygyet (Burmese), *Pegu;*]

——o——

LIKE most of the other Rails, an accomplished skulker, seldom seen, and even when seen little heeded by sportsmen, I find it impossible to define the range of the Ruddy Crake with any approach to accuracy.

Dr. Jerdon tells us that it "is found throughout India; it is not very common in the south, but more abundant in the north, especially in the well-watered province of Bengal." But this is clearly a very vague statement, and there is no evidence to support such a wide distribution.

It occurs in Ceylon, but I find no record of it from any part of Southern India. Jerdon enters it in none of his catalogues, so he did not get it, long-continued and wide-spread as were his researches, in Southern India. No one gives it from the Deccan, and I have never received it from the Central Provinces; but Mr. Vidal is certain that he has seen it near Dápoli in the Southern Konkan, and it may also occur on the Malabar Coast. Ball does not include it in his list from the "Ganges to the Gódávari." There is no reason to assume that it occurs anywhere in Guzerat, Rajputana, Cutch, Káthiáwár or Sind, or the western portions of the Punjab.

But it is common throughout the Deltaic districts of Bengal, and occurs, though only I should say as a rare straggler, in Behar, Oudh, the North-Western Provinces, and the Punjab, Cis-Sutlej, and during the breeding season is common, and perhaps to a certain extent it is a permanent resident, in all suitable localities in the outer ranges of the Himalayas, up to

* The nomenclature of the Rails sadly needs revision. No two authors agree. *E.g.*, the Marquis of Tweeddale, in his latest papers, kept *fusca* as a *Porzana*, and I think correctly, while Gray and Salvadori, unite it with *Rallina*. Schlegel keeps *cinerea*, as I think rightly, as *Porzana*, while Salvadori and Tweeddale class it with *Ortygometra*, the Corn Crake. Failing a more exhaustive examination of the group than I can make at present, I include all the smaller old-world Rails not conspicuously banded, with bills and feet very similar to the Spotted-Crake, as *Porzana*, CRAKES; all the *banded* Rails of this same type as *Rallina*, BANDED CRAKES; *Ortygometra* I reject, and adopt *Crex* for the short-stout-billed CORN CRAKE or LAND RAIL type. *Hypotænidia*, I apply to the longer-billed banded birds, as BANDED RAILS, and *Rallus* to the birds of the European WATER RAIL type.

elevations of from four to six thousand feet from the Woolar Lake in Kashmir to Bhútan. Again, it is comparatively common in the cold season in the Duárs and the entire Sub-Himalayan belt of Tarai, Dún and Bhábar westwards from the Teesta to the Chenab. It *probably* equally occurs in Chittagong, Tipperah, Sylhet, Cachar and the whole of Assam, but the only locality at which I *know* of its occurrence within this vast tract is Shillong, where both Godwin-Austen and ourselves procured it. I know of its occurrence in several localities in Aracan and Pegu,* but we have never found any trace of it in any part of Tenasserim.

Outside our limits, though it occurs in Sumatra, Borneo, Java and the Philippines,† we have failed to obtain it or find any record of its occurrence in the Malay Peninsula. It has been sent from Independent Burma, and Dr. Anderson found it common in the marshes near Momien, in the south-western portion of the *now* Chinese Province of Yunan.

Westwards of India it is not known to occur in either Kabul, Beluchistan, Persia, or any part of Turkestan ; but in the east, in Japan, Formosa, and pretty well throughout China, in Eastern Manchooria, and South-east Siberia, a doubtfully distinct species‡ *(P. erythrothorax)* is found, which I am inclined to think should be united with our bird.

IT IS only in the neighbourhood of Calcutta that I have been able to watch this species, and there, there are small reed and rush-fringed ponds, on the leaf-paved surfaces of which I have in the early mornings seen as many as a dozen, tripping along briskly here and there, picking up all kinds of insects and the larvæ of these, so abundantly adhering to the lotus leaves.

They seem peaceable and gregarious birds, never fighting or skirmishing with each other, and, as they feed, calling softly to each other. Their note,—the only one I ever heard to distinguish as theirs,—was a low soft "*toot, toot,*" but there was a much louder cry which I often heard in the rushes and which I believed to be theirs, as it was not that of any of the other water birds that I knew to frequent these marshy recesses,—"*keek—keek—keek, keek, keek, keek, kya.*" At least that is how it sounded to my ears, but you cannot syllablize these calls so that others will recognize them.

---

* Mr. Oates writes :—

"Generally distributed over all the swamps of the Pegu Province. It is a permanent resident and breeds here."

† Although the Japanese race has been said to be the bird of the Philippines (and it *may* be so of Luzon), the Marquis of Tweeddale notes that his specimens from Mindanao and Leyte are true *fusca*.

‡ This species is said to be distinguished by its somewhat larger size (which a comparison of the dimensions given by Swinhoe does not confirm), longer toes, and by the red on the breast and abdomen not descending so low down as in *fusca*. If *really* separable, it is *extremely* closely allied to our bird.

On showing oneself softly, most of the birds glide out of sight, to re-emerge again if no further cause for alarm appears; but if a gun be fired unexpectedly, some rise and fly,—flying, I think, rather more easily than the Spotted Crake, but still heavily and with down hanging legs,—some dive, and some scuttle away with extraordinary rapidity over the leafy floor.

In most of the places where I used to find them, there was not a square yard of clear water, and I have only once therefore seen them swimming, and that was in an open tank near Port Canning, in which they seemed as much at their ease as Ducks, swimming, however, with all the characteristic jerks of the Water-Hen tribe.

During the day they are generally to be found in the thick herbage that fringes such pieces of water, or along the grassy margins of wet crops, and, at any rate with dogs, seem easier to find and flush than the others of their congeners with which I am acquainted. Of course, like the rest, they thread their way with great rapidity through the dense marsh growth, as only clipper-built craft like these ever could, and always run in preference to flying; but still I think it is easier to flush these than any of our other Crakes.

In the case of these birds, I found that they had fed much more on grain and seeds than from watching them at their breakfasts one would suppose.

All kinds of aquatic insects, little moths, mosquitoes, tiny worms, larvæ of sorts, grass seeds and small grains of various kinds, and tender green shoots or leaves (and as usual a quantity of fine gravel) constitute the contents of their stomachs, but in very varying proportions, not only according to localities and perhaps individual idiosyncracies, but according to the hour at which they are killed; and I came to the conclusion (I give it for what it may be worth) that in the early morning, when out in the open, they feed chiefly on insects, and that during the day, whilst prowling about in the reeds and rushes or in rice and other similar crops, they feed more on seeds and vegetable substances.

None of these birds afford any sport, none are worth much for the table, but it is well to know that all will furnish a savoury enough dish if, instead of plucking them, you *skin* them and then soak the bodies for a couple of hours in cold water (which should be changed at least twice) before putting them into the stewpan, with onions and, if you can get it, sage. Even Coots thus treated are excellent, and it is a thing well worth knowing and remembering.

THE RUDDY CRAKE lays in suitable localities throughout the outer lower ranges of the Himalayas during June and July

Stoliczka found it breeding on the Woolar Lake, Kashmír, in July. Captain G. F. L. Marshall writes :—

"A female shot in one of the small morasses near Bhím Tál on the 19th June had the ovary so highly developed that it was clear that they were breeding then and there."

Hodgson notes that they "breed in Nepal in July, building a nest six inches from the ground fixed in large tufts of wild rice, or by knitting the stalks of this together make a platform on which the eggs are deposited."

In Lower Bengal this species lays from July to September, making a nest of weeds and grass, reed or rush, just like Baillon's Crake, and in precisely similar situations, but somewhat larger and more substantial.

Two nests that I found contained five and three eggs respectively, the former slightly incubated, the latter fresh.

A nest kindly sent me from Jessore, but without particulars, contained seven eggs, which must have been quite fresh, to judge from the minute holes.

The eggs are moderately broad ovals, somewhat pointed occasionally at one end. The shell is tolerably fine, but there is little or no gloss. The ground colour is pinky or creamy white, and the eggs are more or less streaked, spotted, and blotched with brownish red or reddish brown. There are a number of pale inky purple spots intermingled, chiefly at the broad end, with the red markings, which latter, I should note, vary much in shade and hue, being in some eggs almost deep red, in others almost dull brown. The markings are nowhere dense, but they are much more numerous towards the large end.

In length they vary from 1·16 to 1·27, and in breadth from 0·8 to 0·89, but the average of these 15 eggs is 1·2 by 0·84.

PERHAPS in this species the males may *average* a shade larger, but there is practically no difference in the size of the *sexes*, though *individuals* of both vary considerably in dimensions.

Length, 7·8 to 8·7 ; expanse, 12·0 to 14·5 ; wing, 3·75 to 4·3 ; tail from vent, 1·8 to 2·2 ; tarsus, 1·4 to 1·55 ; bill from gape, 0·9 to 1·0 ; weight,

The bill varies from blackish brown to horny, with a greenish tinge, sometimes it might be called dusky olive green. The irides are red, of varying shade, generally nearest crimson, in younger birds orange ; the edges of the eyelids coral red to vermilion ; the legs and feet are at all seasons red (a little dusky on toes and joints), varying somewhat in shade, from a dull coral to almost bright vermilion.

I may add, for comparison with *erythrothorax*, that the mid-toe and claw of the Indian bird varies from 1·6 to 1·81.

THE PLATE cannot be called satisfactory ; the bill has scarcely the tint which it always exhibits in life ; the bright red orbital

ring is ignored, and the legs and feet are, in my opinion, much too coarse and thick.

The bird is so placed as not to show that the occiput and back of the neck are the same colour as the wings and back, which, by the way, are not dark enough in the plate. Moreover, from the glimpse afforded of them, the plate would lead to the conclusion that the under tail-coverts were red, whereas the whole of the lower abdomen, vent, and under tail-coverts are blackish to umber brown, sparingly and more or less irregularly barred with greyish white.

It may be well to notice that the young of the year are so different that they might be mistaken for a different species.

They entirely want the rufous tint, and have the entire chin and throat white, and the rest of the lower surface dull earthy olive brown, mottled or imperfectly barred with brownish white. Towards the end of November they begin to assume the rufous tint (which, in their case, is ferruginous and lacks the rich vinaceous hue of the adult), which first appears on the lores, cheeks, and ear-coverts, and then spreads in spots on to the lower throat, breast, &c.

ELWES'S CRAKE.

—o—

Porzana bicolor, *Walden.*

—o—

Vernacular Names.—[?]

—o—

AT the close of 1870 I picked out a bird of this species from a collection that had been made in Sikhim by Captain H. J. Elwes. I felt sure that the bird was undescribed, but had no books to consult, so deferred describing it until I rejoined my head-quarters. Uufortunately the box containing this and numerous valuable skins from Assam was mislaid and never turned up for years, when it was found amongst other property in the Agra Customs House.

In the meantime, I received a second specimen from Mr. Mandelli, and at once described it, naming it after its discoverer, Captain Elwes. I sent the description to the *Ibis*, but the Editor, instead of publishing it, put it aside for seven or eight months, and only remembered it when Lord Walden, who in the meantime had received a third specimen, described it under the name "*bicolor*." Thus the name of the real discoverer was lost sight of, and it is only in the trivial name that this can now be preserved.

Little is as yet known of its distribution. Numerous specimens have now been obtained in Sikhim, and again in the neighbourhood of Shillong on the Khási Hills, where Godwin-Austen was the first to find it; but it has not been met with elsewhere, though it will doubtless prove to extend in suitable localities throughout the hills bounding the valley of Assam on the north and south.

SMALL MARSHY pools and swamps and irrigated rice fields (in Sikhim much of the rice is dry), at elevations of from four to fully six thousand feet, are the situations in which all recorded specimens have been found. They have all been killed during the summer, and I should expect that during the cold season this species either retreats to the Tarai, Duárs, and similar places in the valley of Assam, or that it moves further east.

Nothing is known of its habits, but the contents of the stomach of one specimen are noticed as "insects, grain and gravel,"

and Godwin-Austen says that two live birds captured near Shillong, which he kept in confinement, eat earth-worms greedily.

He further says:—

"Two specimens were brought to me alive by a Khásia with one egg, which he said was that of this bird. It measures 1·4″ in major diameter, 1·0″ in minor diameter, is of a creamy white colour, unspotted on the smaller end, distantly so on the lower two-thirds, closely on the larger end, the spots all pale grey, with light and dark shades of sepia."

Our dimensions for this species are taken, I regret to say, only from skins.

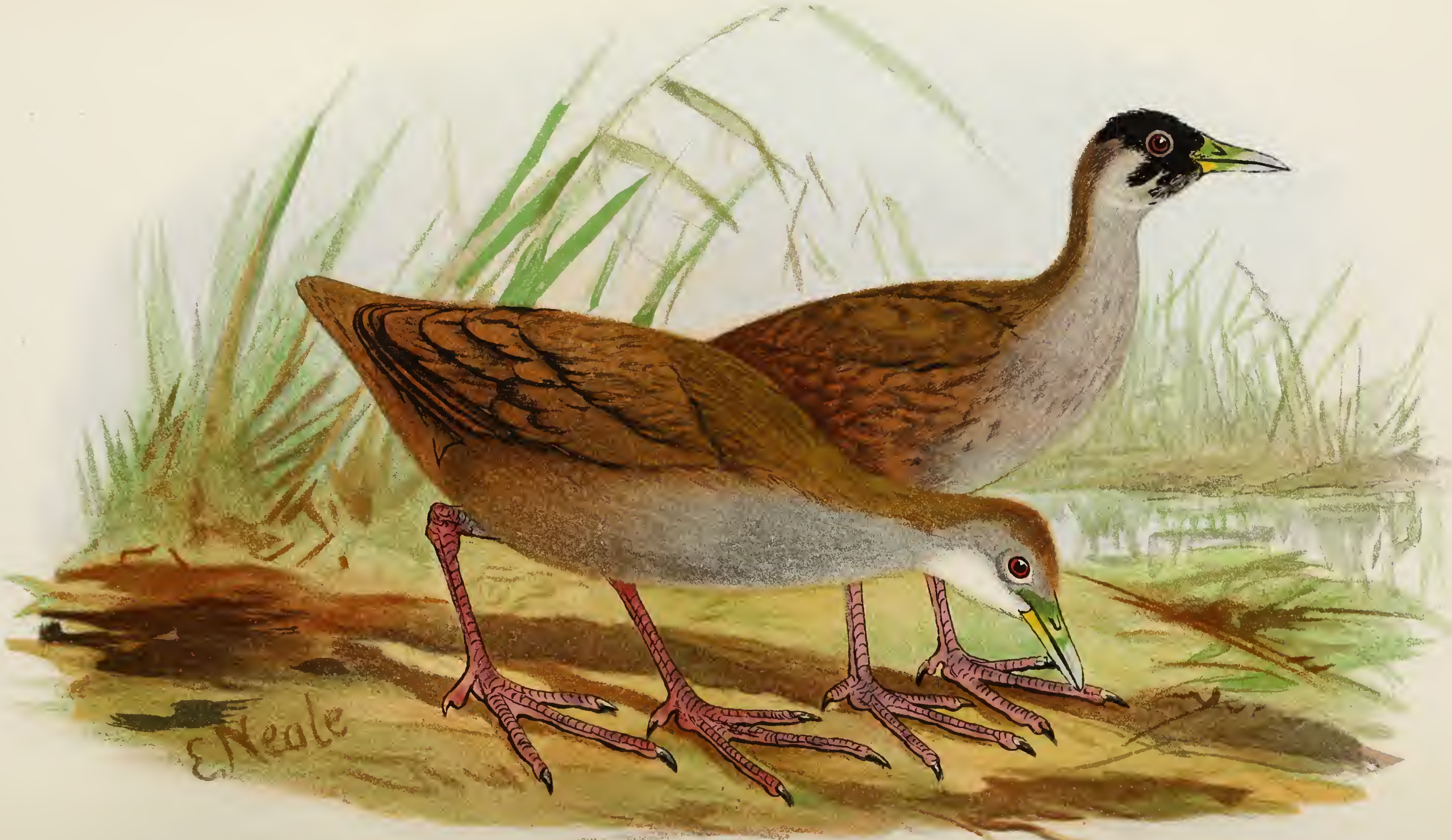
Length, 8·0 to 9·0; wing, 4·3 to 4·7; tail from vent, 2·25 to 2·6; tarsus, 1·5 to 1·6; bill from gape, 1·0 to 1·2. Captain Elwes recorded the bill as greenish, the legs as vinous brown.

Major Godwin-Austen says:—"Bill glaucous green, with a slight tinge of red near the base, and tipped grey; irides crimson, orbits" (? orbital ring?) "red; legs pale dullish vermilion."

A specimen of ours is labelled:—"Bill, upper mandible brown, lower yellowish green; legs and feet olive brown."

I expect that Major Godwin-Austen's version is the correct one.

The plate approximately represents the colours of the plumage; *au reste*, the less said about it the better.



PORZANA AKOOL

THE BROWN AND ASHY CRAKE.

Porzana akool, *Sykes*.

Vernacular Names.—[ ]

ALTHOUGH it doubtless may so occur, I can find no authentic record of the occurrence of this species in Ceylon or anywhere in the Peninsula of India south of about the 20th degree of N. Latitude.

One gathers, from its being included in his list of the birds of that region, that Colonel Sykes *must* have procured it somewhere in the Deccan, but he gives on localities, and no subsequent observer has again met with it there.

North of this line it occurs, but for the most part very sparingly, in suitable localities in certain districts of the Central Provinces (*e.g.*, Sambalpur north of the Mahánadi, Raipur, Saugor), in Northern Guzerat, where, during the breeding season, it is common, in parts of Chota Nagpore, Bengal, the North-Western Provinces (especially about Jhánsi, and in Bundelkhand generally), Oudh and the Punjab, Cis-Sutlej, at any rate in Delhi and Gurgaon. It also occurs in the south-eastern portions of Rajputana (*i.e.*, Bhurtpore,) the Sámbhar Lake, Ajmere, Erinpura, and in the immediate neighbourhood of, and even high up upon, Mount Abu. We know nothing of its occurrence in North-Western Rajputana, in the trans-Sutlej portion of the Punjab, or in Sind, nor, I may add (though it *must* surely occur in the former), in Káthiáwár or Cutch.

In many districts of the North-Western Provinces it is rare to a degree, and the same may be said of Bengal, Oudh and the Central Provinces. Dr. Jerdon says that it is rather common in Lower Bengal, but it is really, as Blyth had long previously correctly stated, rare there.

It is most common, in Upper India, in the Dúns, Tarais, and Bhábars that skirt the southern bases of the Himalayas; but though ascending Mount Abu, it does not appear to ascend these mountains, as I have never seen a specimen procured at a greater elevation than two thousand feet; and I know of its having been found in the summer, and breeding, in the Dún, the Kumaun Bhábar and the Sikhim Tarai. Hodgson, I may

add, distinctly notes that his specimens came from the Siliguri Tarai.

Eastwards of the Brahmaputra we know nothing of its range. Mr. Chennell obtained a specimen near the base of the North Khásia Hills, and that is absolutely the only record of its occurrence in Assam.

I cannot learn that it has ever been found in any part of Aracan, Pegu, or Tenasserim, nor do I believe that it occurs anywhere outside our limits.

Vague as this summary of the distribution of this species is, it is the most accurate that the facts on record and my own long-continued observations, supplemented by those of some fifty-odd correspondents, enable me to furnish ; and it is to be hoped that, now that they can easily identify this and the other allied species, sportsmen will shoot these birds wherever they meet with them and record the fact.

ACCORDING to my experience, this species is less aquatic in its habits than any of our other Crakes, and on this and other, chiefly structural, grounds I have had doubts of the propriety of retaining it in the genus *Porzana*. Very often, especially in the early mornings, you will see this bird running about on bare ground, and even on stones and rocks, near indeed to water, but still quite in the open ; and it habitually frequents pools of water and those small deep-sunk reservoirs which are commonly called open wells in Rajputana, about which there are only a few tufts of grass and a few bushes and none of that dense growth of aquatic herbage which all the other species specially affect.

Moreover, they more habitually swim about and are more thoroughly Water-Hens in all their habits than the rest of the Crakes.

Its food, too, although similar to that of the other species, includes a far larger proportion of tiny snail and other shells and of worms and slugs.

It is much less frequently found in regular swamps and marshes, much most commonly in comparatively thin and often only bush cover on or near the margins of clear water, very often of running streams and water-courses, not unfrequently of ponds and the so-called open wells. I never once saw it walking about over the leaf-covered surface of weed-choked water. It climbs, too, like the White-breasted Water-Hen, and may be found resting many feet above the ground in bushes of different kinds—a thing I never noticed in any of our other Crakes.

It runs, flies, swims and walks for all the world like a Common Water-Hen, of course, jerking its tail and nodding its wise little head just as this latter bird does under similar circumstances.

It is as a rule only in the *early* mornings, and just before sunset, that you will see them in the open ; but after a good fall

of rain, if the sky be still cloudy, they may be observed at any hour picking about in the short grass, feeding at that time chiefly on small worms.

Mr. F. R. Blewitt says:—"I must consider the Brown and Ashy Crake a rather rare bird. For forty years an ardent sportsman in many parts of Upper India, and specially devoted to Snipe-shooting, I have only met with it in Jhánsī, Saugor and Raipur. In the Sambalpur District* I frequently searched for it in favourable localities, but without success. In the Raipur District itself the Rail is very rare; only on four occasions did I and my men meet with it there.

"I have met with it almost always singly; on rare occasions in pairs. Its favourite resorts are swamps, the reeds and bushes on the edges of streams, and the tangled amphibious coverts on the borders of water-courses. A favourite place of abode, too, is the marshy ground occupied by screw-pine plants, the branches and broad leaves of which it ascends like *Gallinula phœnicura* with wonderful agility. I have always found it a shy bird, seeking at once a place of security on the slightest alarm. Frequently I have witnessed it half emerge from the rushes, either to feed or change its retreat, and then pause, carefully scanning the neighbourhood before venturing onward. When walking, it ever and anon jerks up its short tail. It runs with rapidity, and when once concealed, it is very difficult to flush it. Indeed, it would appear rightly to trust far more for safety to its speed of foot and aptitude for concealment than to its powers of flight.

"Slowly and heavily does it fly, and never to any distance, and with good dogs it may be run down and secured. This Rail has a low, short, plaintive note, which, however, I have only heard it utter at day-dawn and just before sunset."

Again, from Mount Abu Captain Butler wrote:—"This Crake occurs on hills and in the plains, frequenting rocky nallas, beds of rivers, and marshy grounds. It is seldom seen, as it prefers hiding in the long grass or rushes or in a thick bush to taking wing when disturbed. It runs with great speed, and I have often seen them go to ground under a large stone or in a hole in the bank, and remain there for upwards of 15 or 20 minutes before emerging again, so as to escape observation. They swim well, and closely resemble the Common Water-Hen in their habits, jerking the tail constantly when walking, in exactly the same manner as that species. I have found them in hedgerows, occasionally at considerable distances from the water. It is by no means common, and I do not fancy it migrates, as I shot a specimen at Mount Abu in the middle of May. Of course it moves from those parts of the country where the rivers and marshes are dry during the hot weather."

* *South* of the Mahánadi. It occurs in this district north of this river.—A. O. H.

EGGS OF THIS species may be found from early in May until the close of September, or perhaps even later ; and I have no doubt that, like the Water-Hen, the Brown and Ashy Crake rears several broods during the season.

I never had the luck to find a nest myself, and so shall quote the accounts of friends who have taken them.

Mr. F. R. Blewitt, the first ornithologist, I believe, who ever found a nest of this species, tells us that it "begins to pair in April, and lays from May to August. The first nest I obtained I took at Jhánsi on the 7th August 1868. It was placed just above the bank of a small nalla on a low-growing wild 'corounda' bush. It was simply a collection of thin twigs and grass put together, just like the nest of a Dove, only in size a little larger. The nest was placed about the centre of the bush, about six feet from the ground, between and upheld by numerous slender branches. It contained two fresh eggs, and a third was laid by the female bird, which was much injured unfortunately in capturing her, and which died in laying it.

"On the 27th May, and on different dates in June 1869, in the Saugor District, my men secured three nests, with four eggs each, in the high grass and rushes growing on the islets in the Dhussain River, ten miles west of Saugor. The first nest was discovered by one of the party who had to return for the stuffers to shoot the parent bird. When, however, some six hours after they came to take the eggs, they found that one egg had hatched off, and that a second young one was freeing itself from the shell. The other two eggs, with the female, were secured. Strange, but true, the escaped young bird eluded the pursuit of the men by diving and hiding in the reeds in the water. A week after, the second and third nests, with four eggs each, were similarly found. They were one and all rough constructions, exclusively made of the surrounding grass and rushes on the high ground of the islets, piled up loosely to the height of about six inches, with a slight depression in the centre for the eggs. I think it was about the end of June that, as my men and I were searching the islets in this Dhussain River for eggs, four nearly half-fledged Brown Rails, of one family no doubt, suddenly dropped from an islet, where they were secreted, into the river. We gave immediate chase and surrounded them, but they baffled us in the grass and rush clumps, and mysteriously disappeared. We searched the islet and every likely hiding-place for them without success ; at last, spying a hole, about a foot in diameter, in the left bank just above the water edge, I told one of the men to insert his arm in it, and, to our utter astonishment, he brought out, one after the other, the four young birds. How they all managed to elude us and find their way to this supposed place of security, passes comprehension.

"The eggs (which you can best describe, as I have sent you each set as found) were white or pinky white, with brown spots,

of sizes, and others more or less washed out, of darker hue about the large end.

"I suspect four is the maximum number laid."

Captain Butler writes:—"I found a great many nests this year (1876) of the Brown and Ashy Crake at Milana, about eighteen miles east of Deesa. In most instances the nests were built round the sides of open wells, either on bushes overhanging the water, in bulrushes or tussocks of long grass growing in or by the side of the water, or in dead thorns near the edge of the water. In many instances I found nests in tussocks of Sarpat grass growing along the banks of small streams or ditches. I also found several nests in dead stick fences, which had become partly submerged during the rains, and others in bulrushes growing round the edges of the tanks, often as high as three feet from the water. The nests are substantially built and composed of sedge, resembling in every respect the nest of the Common Water-Hen, though perhaps a trifle smaller. In many cases the blades of the grass or reeds upon which the nest rests are drawn together over the top of the nest, so as to form a kind of canopy and prevent the eggs from being seen. The eggs vary in number from 4 or 5 to 8. The dates upon which these nests were found are given below. I have no doubt, from the number of young birds observed in August, and the number of fresh eggs taken in September, that most of the birds lay twice during the rains, *viz.*, in July and September:—

"22nd	August	1876,	a nest	containing	8	eggs	about to hatch.
29th	"	"	"	"	6	"	incubated.
"	"	"	"	"	5	"	fresh.
"	"	"	"	"	5	"	fresh.
11th	September	"	"	"	4	"	about to hatch.
13th	"	"	"	"	3	"	fresh.
14th	"	"	"	"	4	"	"
"	"	"	"	"	3	"	"
15th	"	"	"	"	6	"	"
"	"	"	"	"	2	"	"
"	"	"	"	"	3	"	"
17th	"	"	"	"	5	"	"
19th	"	"	"	"	4	"	"
18th	"	"	"	"	4	"	"
"	"	"	"	"	3	"	"
"	"	"	"	"	3	"	"
25th	"	"	"	"	6	"	"
"	"	"	"	"	6	"	"
27th	"	"	"	"	3	"	"
28th	"	"	"	"	6 incubated eggs.		

"In addition to these nests, I found two young broods about a week old on the 23rd August 1876."

The eggs of this species, though somewhat larger, strongly reminds us of that of the English Water-Rail. The eggs are very perfect ovals, only slightly compressed towards one end; and the shells, though fine, are almost entirely destitute of gloss. The ground colour is nearly pure white, with, however, when

quite fresh, a faint tinge, in some of salmon pink, in others of yellow, which, however, generally disappears after the eggs have been kept a few months. The markings are streaky blotches and spots, usually very dense at the large end, but thinly scattered elsewhere. In colour they are purplish or brownish red, and somewhat pale purple, the latter seeming to underlie the former in clouds and streaks.

I have but few eggs (16) of this species. Captain Butler, who has an enormous series, says:—"The eggs vary much in colour, but I think the commonest type is a pale salmon white ground covered with blotches, spots and specks of reddish brown, in most cases underlaid with pale lilac markings. This type, when the lilac markings are wanting, presents us with exact miniatures of the eggs of *Gallinula phœnicura*. Some eggs are very pale, being faintly peppered with specks of reddish brown underlaid very indistinctly with numerous pale lilac markings. Another egg is yellowish white, with a small hazy cap at the large end of reddish brown specks underlaid with one or two faint blotches of pale lilac with a few specks scattered over the rest of the shell. In some eggs the reddish brown spots predominate, in some the lilac predominates, and in others the lilac and reddish brown markings are about equal. One egg I have is altogether white, with the exception of two small red spots at the large end, and a few specks, scarcely visible, on other parts of the shell."

The few eggs I have vary from 1·4 to 1·6 in length, and from 0·99 to 1·15 in width, but the average of sixteen is 1·49 by 1·1 nearly.

THE MALES in this species average appreciably larger than the females, as the following *résumé* of a large series of measurements indicates:—

Males.—Length, 10·87 to 12·0; expanse, 15·75 to 17·0; wing, 4·9 to 5·3; tail from vent, 2·4 to 2·8; tarsus, 1·9 to 2·1; bill from gape, 1·3 to 1·68; weight, 4 to 6 ozs.

Females.—Length, 10·0 to 11·3; expanse, 15·0 to 15·82; wing, 4·4 to 4·9; tail from vent, 2·3 to 2·62; tarsus, 1·7 to 1·8; bill from gape, 1·2 to 1·4; weight, 3·7 to 4·9 ozs.

The irides vary from reddish brown to crimson; the bill is green, culmen dusky, tip of lower mandible (sometimes of upper also) lavender to blue. In one or two I have noticed a small red spot on the middle of the lower mandible. The legs and feet are dull lake red in adults in the breeding season, darker in the cold season; reddish brown in younger birds.

THE PLATE represents the legs of even the old bird as too brightly coloured, while in the young bird (with the black face)

the legs should be merely reddish brown. The bills are not quite rightly coloured, and in the old bird the olive green tinge, which is correctly shown on the back of the neck, should extend further on to the wing-coverts, scapulars and back.

I HAVE already noticed that I have had doubts as to the retention of *akool* amongst the *Porzanas*. I have never seen *Amaurornis olivaceus* from the Philippines and perhaps other islands, but to judge by the plates, it may be congeneric with *akool*.

Several species that I should class as *Porzanas*, besides those already noticed, occur in Africa, Eastern Asia, Japan, the Archipelago, Australia and New Zealand, and America.

I HAVE several times heard of *Crex pratensis*, the Common English Corn-Crake or Land-Rail, being obtained in India; but I have never yet seen an Indian-killed specimen. Blyth says:—"The *Crex pratensis* is stated by the well-known Indian sporting writer 'Purdy' to have been once shot by him in Oudh. I know of no other authority for it as an Indian bird, but have seen specimens from Afghanistan."

It is undoubtedly common as a summer migrant to Kabul, but I doubt its occurrence in India, and I believe that Purdy and others who have reported it have mistaken for it a small female "Water-Cock" *(Gallicrex cinereus)*, which, in *winter* plumage, is really (though larger) very like it.

However, although we have not thought it worth while to figure it, I subjoin, as it possibly *may* occur, Macgillivray's description:—

"*Plumage of the upper parts dull yellowish red, streaked with brownish black; wing-coverts light red; sides of the head grey; lower parts pale reddish; lower wing-coverts, axillaries and sides, light red, barred with white.*

"The bill is light brown; the lower mandible whitish at the end; the iris is light hazel; the feet bluish flesh colour; the upper parts are light yellowish brown, each feather marked with an oblong central spot of brownish-black and laterally tinged with grey; the wing-coverts are light red, some of them imperfectly barred with white; a broad band of ash grey passes over and behind the eye and ear, and the cheeks are tinged with the same; the face, forepart and sides of the neck are light yellowish brown, tinged with grey; the sides and breast barred with light red and white; the lower wing-coverts and axillar feathers light red; the chin and abdomen brownish white; quills and primary coverts light brown, their outer webs tinged with light red; the edge of the wing and

outer web of the first outer feather and first quill reddish white; the inner secondaries and tail feathers like the back.

"Length to end of tail, 10·75 inches; extent of wings, 18·0; wing from flexure, 6·0; tail, 2·0; bill along the ridge, 0·91; along the edge of lower mandible, 1·08; tarsus, 1·58.

"*Female.*—The female is similar to the male.

"Length to end of tail, 10·50; extent of wing, 17·50."

Mintern Bros. lith. Hatton Garden, London

½

PORZANA CINEREA __ PORZANA FASCIATA

THE WHITEY-BROWN CRAKE.

———o———

Porzana cinerea, *Vieillot.*

———o———

Vernacular Names.—[ ]

———o———

THE inclusion of this species in the present work was based upon the supposed fact that Mr. Hodgson had obtained it in Nepal.

This appears to be a mistake.

Mr. Hodgson obtained in Nepal a species that he called *nigrolineata*, which was doubtless the Banded Crake. Mr. Gray at one time* wrongly identified this with Eyton's *superciliaris*, a distinct bird, which I have shown (S. F., VII., p. 451) is identical with my *telmatophila*, described (*tom cit., p.* 142), like Eyton's, from a Malaccan specimen.

Schlegel and others, it would seem, erroneously identified *superciliaris* of Eyton with *cinerea* of Vieillot. Then Finsch and Hartlaub (Central Polyn., 164), the Marquis of Tweeddale (Tr. Z. S., VIII., 94) and others arrived at the conclusion that the present species occurs in Nepal; whereas, in the first place, it is *R. euryzonoides*, not *superciliaris*, that Hodgson obtained in Nepal; and, in the second place, the latter is totally distinct from our present species.

There is, therefore, no record of the occurrence of this species within our limits; but as we have figured it, I must say a few words about it.

We have obtained it on Singapore Island, and it has been sent from Malacca; but, so far as we yet know, it is confined to the central and southern portions of the Malay Peninsula. Thence it stretches through Sumatra, Java, Borneo, the Philippines, Timor, Celebes, &c., New Guinea, and Australia to New Caledonia, the Samoan, and other of the South Pacific Islands.

WE KNOW nothing of the habits of this Crake. Davison flushed and shot a single specimen one evening from a little road-side water-course in the suburbs of Singapore. It rose

* In his Hand List he later correctly identified it with our Indian bird, *euryzonoides*, Lafresnaye, *amauroptera* of Blyth.

heavily, Rail-like, with the legs hanging down behind, and was knocked over before it had got far.

Lieut. H. R. Kelham, of H. M's. 74th Regiment, writes to me :— "As regards *P. cinerea*, though for over six months I was daily shooting among the swamps and jhíls of North Perak, I never met with either it or the Ruddy Banded species, though *Hypotænidia striata* was rather common.

"My experience has been that *P. cinerea* is not found in wild, jungly districts, but frequents low-lying, cultivated country.

"I have shot it in Province Wellesley, and towards the end of September it literally swarms in the paddy fields of Singapore, particularly in those which are knee-deep with the filth which the Chinamen carry out from the town and spread over the fields. About sunset I have seen dozens of these Rails come out of the reeds and bushes bordering the paddy fields and commence to feed, scuttling away to the covert when alarmed."

NOTHING IS known of the nidification of this species.

A MALE measured in the flesh :—

Length, 8·5; expanse, 12·0; wing, 3·62; tail from vent, 2·12; tarsus, 1·4; bill from gape, 1·0; weight, 2·25 ozs.

The legs, feet and claws were clear grass green; the upper mandible greenish brown; the lower dark oil-yellow; edges of eyelids litharge red; irides dull lake.

Another male measures in the skin :—

Wing, 3·68; tail from vent, 1·85; tarsus, 1·34; bill from gape, 0·92.

Of this specimen, the legs and feet were green; the bill brownish red; and the irides orange red.

Of one shot on 24th September, Lieutenant Kelham says :— "Length, 8½ inches; irides red brown; beak yellowish red at base; legs yellowish green; soles yellow."

Other authors have given the legs as greenish, olive green, oil green, dirty reddish yellow; the bill as yellowish fleshy, brownish yellow above, yellowish below, yellow reddish at the base, reddish brown above, brick red at the commissure. Irides red.

THE PLATE, conveys a good idea of the specimen, a male, that was figured; in another male I find the whole of the crown black, not barred, though the feathers are faintly edged paler. The bill, too, was brownish red.

THE MALAYAN BANDED CRAKE.

Rallina fasciata, *Raffles.*

Vernacular Names.—[ ]

IT is only in Tenasserim that the Malayan Banded Crake occurs within our limits, and even in this Province I am not aware that it extends further north than Moulmein. In Pegu, Upper Pegu at any rate, it is replaced by the Indian species.

Elsewhere it is found throughout the Malay Peninsula, Sumatra, Java, and Borneo, and *may* occur, as has been stated (though this requires confirmation), in the Philippines. It has also been recorded from Bouru and the Pelew Islands.

WHEN ONE has recorded the food, flight and habits of one species of these Crakes, there remains little to be said about the others, unless you have watched them very closely. With careful observation each species exhibits some peculiarities in its mode of life and food, which to a certain extent characterize it; but the opportunities for such observation are rare in the case of all Rails, and in regard to this particular species, which I have never seen in a wild state myself, I cannot find that any one has ever recorded anything beyond what Davison remarked in our Birds of Tenasserim. He said:—"This Crake is very rare in Tenasserim, confining itself to the brushwood and scrub jungle in the vicinity of cultivation. I only saw this at Amherst and Tavoy. It may occur between Tavoy and Mergui, which I have not worked, but from Mergui southwards, within our limits, I do not think it occurs, which is at first sight strange, as further south again, in the Malay Peninsula, it is common enough. It may be that the rice lands in the southernmost portions of the Province do not suit it. About Amherst and Tavoy the rice fields are surrounded by a good deal of low scrub and brushwood. About Bankasoon, on the other hand, the rice fields are mere hollows, with the dry forest, comparatively free of undergrowth, coming right down to their margins, where, consequently, there is no cover such as the bird likes and finds abundantly in both localities where I have seen it."

I HAVE been unable to learn anything of the nidification of this species.

THE PLUMAGE of the sexes does not differ appreciably, unless the throat of the female be a little whiter and the upper plumage a shade duller.

I cannot now make out that there is any appreciable constant difference in size between the sexes, but individual birds of both vary very greatly in dimensions and weight:—

Length, 8·62 to 9·82; expanse, 15·8 to 16·9; wing, 4·8 to 5·3; tail from vent, 2·0 to 2·6; tarsus, 1·6 to 1·9; bill from gape, 0·95 to 1·2; weight, 2·75 to 4·75 ozs.

Legs and feet coral red; claws horny blue; the bill varies—in some it is blackish, in others plumbeous or dark horny blue, in one dark greenish slatey; the irides again have been red brown, dull red, and crimson, and the orbital ring, gape and skin of chin vermilion.

THE PLATE is a very fair picture of the bird, though the bright red at the gape is omitted. I may note that the white speckling or mottling shown down the front of the breast is a pictorial effect, intended, I presume, to convey the idea of light falling on the feathers. The chin and throat *are* white or whitish in some birds (females, I believe), while in others (the old males, I believe), these parts are the same colour as, though paler than, the breast; but in all specimens the entire breast is the same uniform ferruginous chestnut as the sides of the neck.

PORZANA EURYZONOIDES

Garden, London

THE BANDED CRAKE.

Rallina euryzonoides, *Lafresnaye*.

Vernacular Names.—[ ]

DR. JERDON tells us that the haunts, habits and distribution of this species in India resemble those of the Ruddy Crake, *i.e.*, that it is found throughout India, is not very common in the south, but more abundant in the north, especially in the well-watered Province of Bengal.

I believe this to be totally wrong. In the first place, it is almost certain that the Banded Crake is only a cold-weather visitant to our Empire, while the Ruddy Crake is a permanent resident. In the second place, I do not think that the migration of even stragglers of this species extends to one-third part of India; it is absolutely unknown in the north, and almost equally so in the well-watered Lower Bengal.

Rails have been a special study of mine for many years. I have shot in India far and wide. I have for years examined every Rail brought into the Calcutta market during the cold season, and I have *never* seen a specimen alive. I have searched every Indian local list of birds, and can find no record of its occurrence, beyond the facts that it arrives in large numbers in Ceylon in October; that Blyth received a specimen from Goomsur, in the north of the Ganjam district; and that Hodgson (*vide ante*, p. 233) procured it in Nepal. To this I can add that I received a specimen from the Assamboo hills in the extreme south of the Peninsula; that Mr. Brooks gave me a male shot by him in Cawnpore; that I have examined a pair from near Cuttack, two females shot in Mainpuri and near Lucknow, and a male from near Allahabad, and one specimen (I forget the sex now) caught in a house at Thyetmyo in Upper Pegu.*

In all the innumerable collections, made in all parts of the country, presented to my museum or sent to me for examination,

* Blyth, who had received a female from Goomsur, and had apparently only seen a male from Ceylon, concluded that the Continental bird was a different species, which he named *amauroptera*; but an examination of three pairs from Upper India, with three from Ceylon and single birds from the Assamboo Hills and Pegu, shows that all clearly belong to the same species.

I have *seen* no other specimens. I have been, however, assured of the bird's occurrence in the Bhútan Duárs and Sikhim*, in the north of the Bahraich district, Oudh, and in the Dehra Dún.

Dr. Anderson obtained a single specimen in 1865 in the Calcutta bazaar, where Blyth never saw it, and where, during the cold season, I have seen none. Similarly, during the last thirty years, the Madras Museum have obtained a single specimen from the neighbourhood of Madras.

I conclude that it is only Ceylon and the *extreme* south of the Peninsula that this species visits regularly and in any great numbers ; but that yearly a few stragglers reach the eastern coast of the Peninsula, and a few, passing *viâ* Upper Pegu, sweep, some up the valley of the Ganges, as far west at any rate as Mainpuri, and some up that of the Brahmaputra to the base of the Himalayas, and thence westwards along their Tarais and Dúns, (perhaps as far west as the Jumna,) finding their way occasionally into some of the lower and warmer valleys in the interior of these mountains. Very possibly some find their way into the valley of Assam, but of this we know nothing at present.

But where do they come from ? From several islands of the Philippines (Zebu, Negros, Leyte) the Marquis of Tweeddale announced specimens which he referred to this species. He said, these "do not quite agree with Ceylon and Continental Indian individuals, inasmuch as the dark banding below appears blacker, broader, and more decided, and the dorsal colouring is browner. Still, since it is impossible to select any marked characteristic difference, and as this Rail is probably a migrant, as in Ceylon, I refer these Philippine birds to the Indian species."

Assuming this identification to be correct, the Marquis of Tweeddale's birds, collected from the last week of April to September, may really be birds of the race that migrates to Ceylon and straggles to India in the cold season, and the slight differences in plumage noticed may be seasonal.

I cannot find that this species has ever been recorded from Java, Sumatra, or Borneo ; but these lie perhaps south of their line of migration. Of Cochin China and Siam we know so little that its non-record thence is no matter for surprise ; but that it should never have been found in either S. Tenasserim or the Malay Peninsula is surprising. We, at any rate, have never seen it thence. From the former we have *Rallina fasciata*, from the latter *Rallina fasciata*, *superciliaris* and the Chinese *mandarina*,† but we have never seen the present species.

Salvadori says, however, "a species allied to *R. fasciata* is that described as *euryzonoides* by Lafresnaye, of which the Turin

* Mr. Mandelli says :—"About *Porzana euryzonoides:*—It must be a very rare bird here. I got only one specimen in the Bhútan Duárs, and also one mature specimen with a young one shot in Native Sikhim on the Ramana river : in all, three specimens in all these years."

† In *Stray Feathers* (Vol. VIII., p. 406) I have shown that this is probably identical with *Rallus paykulli*, of Ljung.

Museum possesses one specimen from Malacca and one from Java, and of which I have seen a third specimen killed by the Marquis of Doria in Singapore."

The only question is, did Salvadori refer to this present species? Or did he identify the, at that time, overlooked *superciliaris* with Lafresnaye's *euryzonoides?*

LITTLE is known of the habits of this species.

Layard tells us that "these birds arrive in the south of Ceylon in great numbers in the months of October and November, coming in with the first northerly wind which blows (whence their Dutch name) ['*Nordewind.*'] They drop exhausted, as if from a long flight, in the streets and houses, and conceal themselves till recovered from their fatigues. I found one in the well of my carriage, another in the folds of the gig apron, and a third in a shoe under my bed."

Holdsworth says the same as to its taking "refuge in the first place of concealment it can find, often entering houses and hiding amongst the furniture" on its first arrival.

Later it distributes itself, we learn, about the country, being met with in gardens, wet cultivation and swamps, and being during the colder months by no means rare in Southern Ceylon, and being found also quite to the north. The little I can learn of its habits seems to show that it is more terrestrial and less aquatic than most of the Crakes, and that it is more often found in coffee plantations, gardens and comparatively dry scrub than in wet crops and swamps. But for a correct and full account of the life-history of this species in Ceylon, we must await the later parts of Captain Legge's admirable work on the Birds of that island.

NO PRECISE information as to the nidification of this species is available. Layard says:—

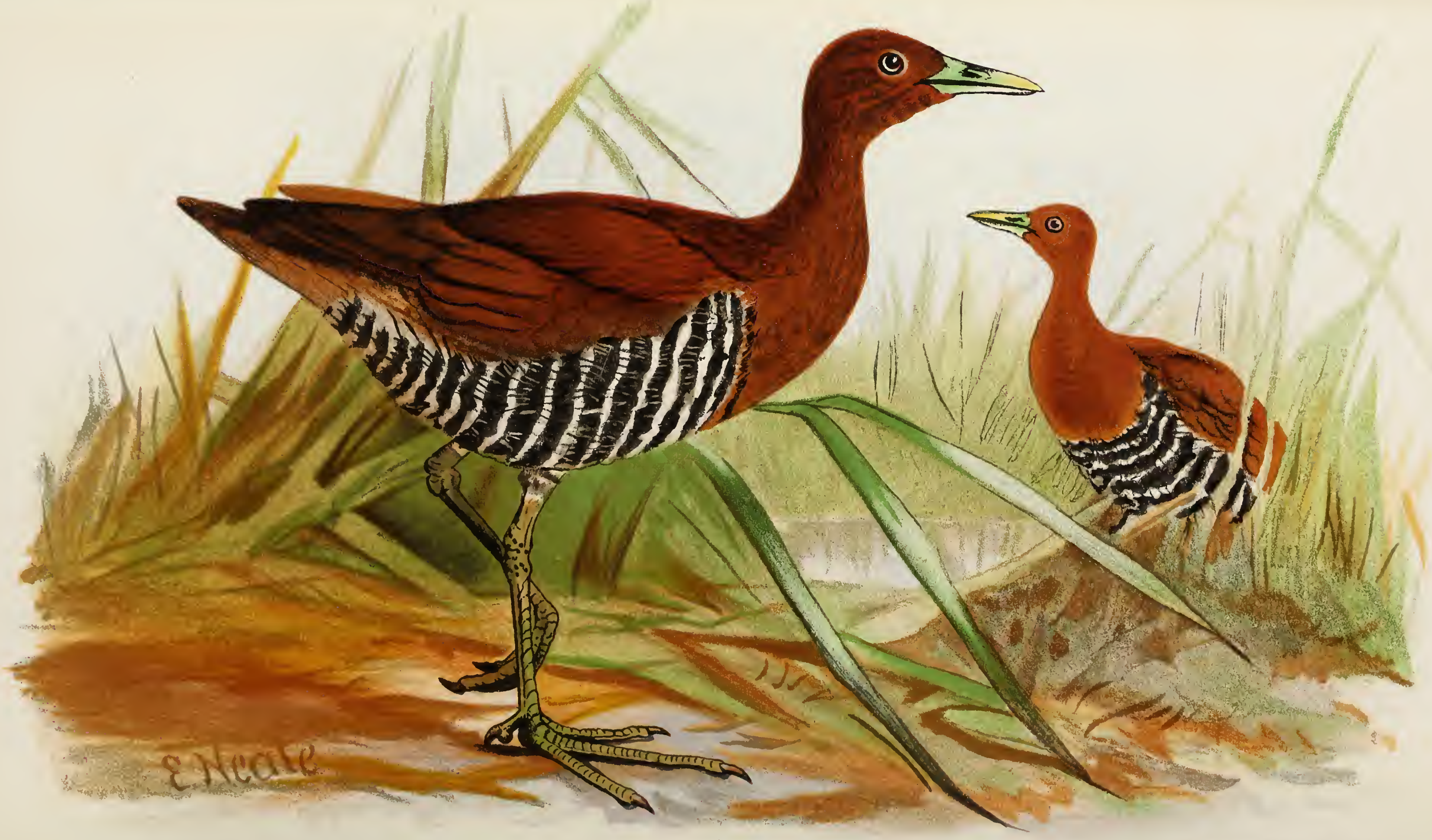
"Some eggs were given me by a native as the eggs of this bird, which were precisely similar in all respects, save that of size, to those of *Gallinula phœnicura*—axis, 1·085; diameter, 0·83." One would scarcely expect that these birds should breed during their winter migration, but they may possibly do so.

NEITHER I nor any of my regular collectors having ever obtained this species, I have no measurements in the flesh to record. The following are taken from skins:—

Length, 9·75 to 10·75; wing, 4·8 to 5·25; tail from vent, 2·1 to 2·3; tarsus, 1·5 to 1·75; bill from gape, 1·1 to 1·39. The females seem to average rather smaller than the males.

The legs (Holdsworth says) are leaden-brown; the irides red-brown; ("carmine with an inner circle of yellow," Layard says); bill dusky above, green below.

THE PLATE represents both sexes of this species fairly, although the legs and feet are perhaps wrongly coloured. It should be noted, because the shade makes this doubtful, that in the male (the right hand figure) the entire crown, nape and back of the neck are a rich chestnut, while in the female (the flying bird) these parts are, as shown in the plate, unicolorous with the back.



EURYZONA ½ CANNINGI

Waller Chromo-lith 19 Hatton Garden London.

THE ANDAMANESE BANDED CRAKE.

—o—

Rallina canningi, *Tytler.*

—o—

Vernacular Names.—[ ]

—o—

THIS handsome species, I really think the handsomest bird of the whole sub-group, is, so far as is yet known, absolutely confined to the Andaman Islands.

It may prove to extend to the Nicobars, but it has not as yet been procured there.

SO FAR AS we know, this is chiefly a Woodland Rail, haunting the neighbourhood of streams and pools bordered by dense forests.

Captain Wimberley writes:—"This is an extremely shy, and, I believe, exclusively a forest bird. It certainly never leaves cover during the day time. It is found either in the forest itself or in thick secondary scrub adjoining this, and especially where the ground is swampy or intersected by hill streams.

"If driven out of cover it will not take wing unless hard pressed, when its flight is slow and heavy.

"Its food appears to consist of insects and fresh-water fish. The latter I infer, as some of those I sent you were taken in snares laid on ground baited with fresh-water shrimps, which were all eaten.

"I have never heard its call-note, but the man I employed to snare some of my specimens tells me that its call is very similar to that of the Andamanese Banded Rail.

"I do not think the bird is at all uncommon here, but it is rarely met with owing to its shyness and its habit of keeping to cover."

MR. F. A. DEROEPSTORFF kindly sent me the eggs of this species, together with the parent bird, with the following note:—"On the 17th of July a convict (Hanwanta, No. 18,009), who was

cutting guinea-grass, noticed a bird sitting on her nest. He quietly dropped his cloth over both, and brought them straight to me. The nest was merely a lot of the grass rolled together. It contained 6 eggs. This patch of guinea-grass grows under a number of big trees left standing at the edge the forest. The nest was in a hollow, a little above a small wet-weather stream on a projecting root."

The eggs, though smaller, strongly recall those of the Common Water-Hen, and also some varieties of those of the Purple Coot. The eggs are broad, very regular ovals, scarcely narrowed at the smaller end. The shell is fine; glossless in some specimens, with a faint gloss in others. The ground colour varies from pinky white to a rich pinky stone colour, or even warm *café au lait*, and they are boldly streaked and blotched, chiefly about the large end, with maroon red and reddish purple of varying shades and degrees of intensity in different specimens; spots and specks of the same tints are scattered over the rest of the surface of the egg, but it is only towards the large end that the markings are large or thickly set. The eggs vary from 1·35 to 1·44 in length, and from 1·05 to 1·13 in breadth.

IT WAS to Captain Wimberley that I was indebted for a magnificent series (no less than twelve specimens, all carefully sexed and measured in the flesh) of this singularly beautiful Rail.

The following are the dimensions; the sexes do not appear to differ perceptibly in size; the females may perhaps average smaller, but some females are as large as any males:—

Length, 13·0 to 14·5; expanse, 19·0 to 20·0; wing, 5·95 to 6·4; tail from vent, 3·25 to 3·6; tarsus, 2·05 to 2·3; bill from gape, 1·35 to 1·5; bill at front, 1·1 to 1·22; mid-toe and claw, 1·85 to 2·0; its claw only, 0·4 to 0·45.

The legs and feet are olive green; the bill a delicate pale chrysoprase green; the irides are red.

THE PLATE is, we think, admirable, and represents most accurately a pair of adults, the male being in the fore-ground.

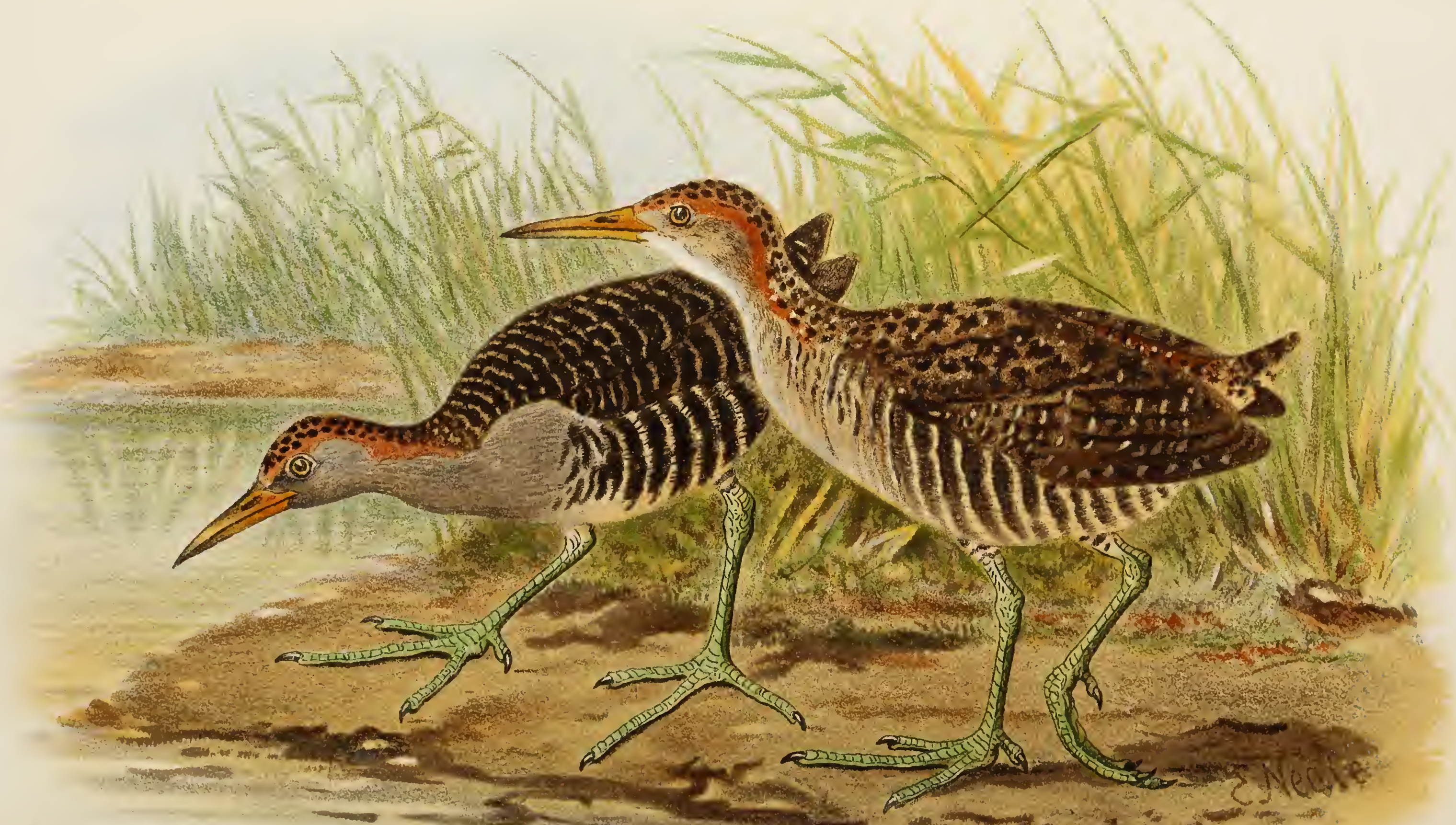
Some specimens, apparently chiefly females, are duller coloured, and have a marked olivaceous tinge on the rump and upper tail-coverts.

When the wings are opened, and the elongated tertiaries (which are longer than the longest primaries) are pushed aside, the primaries and secondaries are found to be an olivaceous brown on the outer webs, pretty strongly tinged with rufous, with the inner webs black or blackish brown; on the inner webs are numerous moderately narrow, somewhat slanting, transverse white or rufescent white bars, about three on the first primary, four on the next, and five or six on the others; in some specimens the outer webs are quite unbarred and

unspotted ; in others they have distinct buffy bars or spots corresponding with the bars on the inner webs, more or less bordered above and below with a blackish brown line ; in some specimens the greater coverts are like the primaries, and exhibit similar spots on their outer webs ; in others they are spotless, and in others again the whole visible portion of them is precisely like the lesser and median coverts.

BESIDES the three species that we have figured as occurring within our limits, one other species of *Rallina* was obtained, to our knowledge, near Shillong at least two years ago. This specimen is now in Major Godwin-Austen's possession, and he kindly promised to have it figured for this work, but owing to delays that have unavoidably occurred it must appear, if at all, in the 3rd vol.

In the Malay Peninsula occur, as already mentioned, *R. superciliaris* and *paykulli*, the latter originally described from Java, but re-described later as *manderina*, by Swinhoe from China ; from Java we have also *rubiginosa ;* from Celebes *minahasa*, very close indeed to the Banded-Crake ; and many other species from the Archipelago and New Guinea, extending down to the northern portions of Australia. India, however, is the westernmost country to which the genus extends, and its range lies entirely east, north-east and south-east of our Empire.



Wall... Chromo... Hatton Garden, London

½

HYPOTŒNIDIA OBSCURIORIA — HYPOTŒNIDIA STRIATUS

THE BLUE-BREASTED BANDED RAIL.

Hypotænidia striata,* *Linné.*

Vernacular Names.—[Kana-Koli (Tamil); Wade-Kodi (Telegu); Yay-gyet (Burmese), *Pegu;*]

HERE again I am terribly at fault as to the real distribution of this species. Dr. Jerdon tells us that this species is found throughout India, from the extreme south and Ceylon to the foot of the Himalayas and the Punjab; but, so far as I have been able to ascertain, the Blue-breasted Banded Rail occurs in only a fractional portion of India. Dr. Jerdon may have possessed sources of information not open to me, but I must state the distribution as I have at present ascertained it.

---

* It seems still somewhat doubtful what name our Indian birds should bear. *Striata* was described from the Philippines.

Recently the Marquis of Tweeddale, in one of his valuable papers on the birds of the Philippines, remarked of two specimens of this species:—

"These Zebu specimens may be regarded as being typical; and from them Andaman and Rangoon examples cannot be separated; consequently the titles founded on the Andaman race must fall. A comparison made with Continental, Indian, and Malaccan examples does not support my former opinion that the Andaman birds specifically differ from Indian and Malaccan; otherwise the Indian race would require a new title."

This would appear conclusive; but the fact is that our very large series, probably the largest in the world, does not confirm this view. Our specimens are from Ceylon. Madras, the Nílgiris, the Wynád, the Malabar Coast, various places in Lower Bengal and Assam, Aracan, Pegu, Rangoon itself, various localities in Tenasserim, and all parts of the Malay Peninsula. These are all absolutely of the same type, the birds of the southern portions of the Indian and Malayan Peninsula as a whole slightly palest, those of Assam slightly darkest, but not one single adult bird out of between fifty and sixty making any approach to the colouration of any Andamanese specimens. The Andamanese bird is not *only* much deeper coloured, its crown and nape are almost maroon against chestnut in the Continental bird, it almost *entirely* wants the brown margins to the feathers of the upper surface, and it is distinctly larger. It is not possible that the Zebu birds should be inseparable from *both* Rangoon and Andamanese birds. Either Lord Tweeddale wrote from memory, or he had before him *immature* specimens, either from Rangoon or Zebu, or from both. For be it noted, that at one stage, *before* it puts on the complete chestnut head of the fully adult bird, and while this is still much mingled with brown, the immature bird of the Continental race is almost as dark as the mature Andaman bird, but not nearly so dark as the corresponding stage of the latter, which is almost black.

It still remains uncertain, therefore, whether the Philippine bird, the true *striata*, agrees with Indian and Malayan or the Andamanese form. If the latter, then

It seems common in Southern Ceylon, and occurs about the bases of the Nílgiris, the Wynád, and the Malabar Coast, whence it extends into Belgaum and the Southern Koncan.* Two specimens were also sent me by Captain Mitchell *said* to have been procured in the Madras market.

North of this I can find no record of its having been procured in the Madras Presidency, in the Deccan, the Nizam's Territory, Khandesh, Guzerat, Berar, the Central Provinces, the Central India Agency, Rajputana, Kutch, Káthiáwár, Sind, the Punjab, Oudh, the North-Western Provinces or Chota Nagpore. I do not rely only on published lists; in many of these localities I have personally collected on a large scale, while in others I have had experienced collectors, like Mr. F. R. Blewitt, collecting for a series of years.

The species reappears in the deltaic districts of Lower Bengal, from several localities in which I have received specimens; it is very common in the neighbourhood of Calcutta itself. I have it from Sylhet, Cachar, and the Khásia Hills; and, though I have seen no specimens thence, have been informed that it occurs right up the Assam valley to Sadiya.

I should expect it to occur in the Duárs and in the Tarais, running thence westwards along the bases of the Himalayas; but I can obtain no verification of this fact, and Mr. Hodgson never seems to have obtained it in Nepal or Sikhim, or to have received it from the Tarais below these. Doubtless it occurs in Tipperah and Chittagong, but the fact still remains to be established.

We know of its occurrence in Aracan, many localities in Pegu,† and several in Tenasserim.

---

obscuriora must be suppressed, and the Indian bird *would* require a new title; but if the former, which seems most probable, then the names as given in the text would stand.

Of course the question as to whether we should accept the peculiar Andamanese race as a distinct species still remains an open one. I can only say that the insular birds are uniformly, sex for sex (of course taking adults only), markedly larger (as are their eggs), and the colouration so different that no single Indian or Malayan specimen in our huge series approaches or can be confounded with any Andaman bird. If we suppress it, so must we suppress one or two others of the genus now universally accepted.

* Mr. G. Vidal writes :—

"I found a few birds of this species in a mangrove swamp on the Váshishti river in this district (Ratnagiri), about five miles from the coast. I shot one male on the 30th March 1879 measuring as follows :—Wing, 4¾; bill, 1⅜; tarsus, 1½; mid-toe and claw, 1¾. Eyes *red*; legs greenish; bill dusky above and reddish below. I have not yet seen this species elsewhere, nor has any one else to my knowledge obtained it in this district. In its habits it appears to be less skulking than *P. bailloni*. Towards evening I have seen them come fearlessly out of the thick cover of the bushes and mangroves to the edge of the mud banks to feed, giving a good shot from a boat. But if once alarmed, they dodge rapidly under the bushes, and it is almost impossible to put them up again."

† Mr. Oates writes :—

"The commonest of all the Rails. It is found everywhere in Pegu in the plains. It is a constant resident, I think, but I do not remember ever *seeing* it in the dry weather, November to May.

Outside our limits it has been obtained in Independent Burma, Western Yunan, and Southern China generally and Formosa; in Siam, Cochin China* (Saigon†), the Malay Peninsula, Sumatra, Java, Borneo, and probably (but see note, p. 245) the Philippines.

In the early mornings, in the neighbourhood of Calcutta, where alone I have been able to observe this species, it may be seen running about on the grassy banks of water channels or on short turf bordering on rice fields, swampy thickets, and the like, but at all other times it lies concealed in wet standing crops, brush-wood, in low hollows or dense herbage, often on the margins of river channels. and ponds.

It runs with great rapidity and ease, but as it feeds, walks slowly along with rather a circumspect air, lifting its feet very deliberately, but holding its body all the while nearly horizontal; every now and then it makes a little run here and there to seize some favourite morsel; then it will stand still a moment and raise its head as if to listen, and again resume its deliberate march, occasionally, but not nearly so often as do the *Porzanas*, jerking its little tail. I do not think it is quick sighted, or, if it be so, it does not look many feet above the level of the ground; for I have stood for several minutes at a time in grass scarcely above my knees, watching one of these birds on the open sward scarcely ten yards distant. Even raising my hat silently to wipe my forehead has not caught the bird's attention, but at the slightest sound, *e.g.*, the clicking of a rupee once against my gun barrel, it would give a little shrug and glide, stooping low, into cover with wonderful quickness. Keep perfectly quiet, and if it is still early, and the heavy dew thick on the grass, in a very short space of time, *just* where it disappeared, you will see the bird's head and neck protruded from the reeds, and after a moment or so our friend re-emerges, and, running to close to the spot whence he (or she) was frightened, resumes its food-quest.

I *have* seen as many as five birds thus feeding within a circle of fifty yards; but single birds or pairs are far most commonly thus observed, and this is equally the case when beating likely spots with dogs, when you are pretty sure of flushing all the birds there are, once, at any rate. Without dogs, unless you surprise them, suddenly emerging from the cover nearest to them, and rushing at them, they are hard as a rule to put up, preferring, in most cases, even though in the open, to depend upon their legs. With dogs they rise *once* readily enough, but after that will usually allow themselves to be caught rather than fly a second time.

---

* Diard

† Finsch and Conrad. K. K. Z.-b. G., Vienna, 1873, 4th June.

Their flight is slow and flapping (their large legs hanging down conspicuously behind), and is rarely extended beyond twenty or thirty yards, after which they drop, into cover if possible, but if there be none close enough in the direction in which you have driven them, on to the bare ground, where they take up the running in real earnest. Where dogs are barking behind them, they make a push to reach the nearest cover before alighting; but on one occasion on which I chanced to cut off a bird from the only patch of real cover within two hundred yards, it dropped into a tiny bush after a flight of perhaps seventy yards, and was seized by a dog directly.

They are very silent birds, and I have never heard their regular call, but when feeding, if a pair are together, I have heard one utter a rather sharp, though not loud, whistled note.

I have never seen them swimming voluntarily; a wounded bird dropping in the water will swim, and if pursued will dive, but I do not think that they normally take to the water.

Their food is very varied, chiefly, I think, worms, small snail and other shells, tiny grasshoppers and other insects, but grass seeds and vegetable substances are generally found mingled with their other food, and with it all an abundance of coarse sand. When wounded, they will hide up in any hole, most especially in holes, just above water level, in under-cut banks of streams and water-courses, and if shot at on such banks and not killed outright, they are sure to disappear into some such refuge, leaving no scent behind them, as they always run or paddle some little distance in the water, under the overhanging bank, before lying up.

In the day time, even when beating patches of swamp which you know to contain several, you will rarely flush one unless you have small active dogs. At first, no doubt, they run about, but if the hustling is continued, they creep into some hole, or if there be none such, crouch under some dense tuft, where a sharp-eyed beater every now and then spies them out and pounces on them.

They are very easy to keep for a time in confinement, and soon get so tame that they will feed out of your hand, eating greedily worms, small snails, boiled rice, vegetables, almost anything of this kind you give them. But they dislike a bright light, and always take refuge in the darkest corner during the sunnier hours of the day, and after a time always seem to pine away and die. Probably they would live well enough in suitable aviaries. I have always had them in cages.

I do not know exactly how to define it; but, having seen much of this species, I should say that it was much less of the Water-Hen type than are the Crakes and more of the Water-Rail.

I cannot say whether this species is at all migratory in India. *Some* remain all the year round in the neighbourhood of

Calcutta, but they seem much more numerous there in March and April than at any other time—perhaps because the whole country is drier and fewer places suited to their habits are then available, and they are therefore easier to find.

THEY SEEM to breed in all the localities where I have noted their occurrence, the breeding season extending from May to the end of October, and they rear, I believe, at least two broods during this period.

The nest, a pad or heap of grass varying from one to twelve inches in height, and from six to ten inches in diameter at top, where there is a slight depression for the eggs, is always placed in grass, rushes, or standing rice in the immediate neighbourhood of water.

Six is the largest number of eggs that I have known to be found in any nest, but seven appears to be the full complement.

A nest taken on the 12th of July in a small swamp outside and south of the Botanical Gardens, Calcutta, which several of the birds had frequented throughout the cold season, was a conical heap of dry *rush* about eighteen inches in diameter at base, nine at the top, and about six inches in height. The depression may have been an inch deep in the centre, and was lined with green *grass*. It was placed half on the land and half in the water, completely surrounded by dense bulrushes, through which, on the land side, the birds had made three distinct paths. On the water side there was a tiny natural opening through the bulrushes. The nest contained six hard-set eggs, and the female was snared on it, having returned to it despite the disturbance caused by two people smashing through the bulrushes to it and all round about in looking for it.

Mr. Cripps "found a nest in Sylhet on the 22nd of June, snaring the female on it. It was a heap of grass, rushes, &c., about five inches in height, with a slight, central depression, placed in a grass field close to water, and contained four fresh eggs."

Mr. Darling writes that he "found a nest on the 26th August at Sultan's Battery, Wynád, elevation about 2,000 feet. The nest was placed in some long grass by the side of a small swamp lying between the public road and a bamboo jungle. The nest was in the centre of a tuft of grass about eighteen inches in diameter, and was entirely concealed. It was built exclusively with grass, dry and decaying at base, green and fresh at top, and was some eight inches high and six in diameter, with a central depression two inches in depth. There were five eggs, all covered with mud, which must have first adhered to the feathers of the bird when she was feeding. In this same swamp, not quarter of an acre in extent, I found fifteen shells of three other nests that had hatched off."

But Mr. Oates has seen many more nests of this species than any of us, and he says :—

"This bird is very common in Lower Pegu, and I have found no less than eight nests. The breeding season seems to extend from about the 1st of July to the 11th October, on which latter date a nest of well-incubated eggs was found.

"The nest is a mere pad of soft grass, leaves, and the outer rind of the elephant grass, about eight inches in diameter and one thick, placed in a tuft of grass, always near water, and raised a few inches above the ground. The coarse grass growing round paddy fields is a favourite locality. The bird sits very closely, and the nest is not easy to discover. The male bird sits on the eggs, at least at times, and I killed one with a stick while he was sitting on seven eggs.

"Seven is the full number of eggs, occasionally six only. In length they vary from 1·43 to 1·18, and in breadth from 1·08 to 0·96, but the average of 31 eggs is 1·34 by 1·00 ; some are almost glossless, others are considerably glossy. The ground colour is pinkish stone, pale when fresh and darkening as incubation proceeds. The shell markings consist of blotches and splashes of pale purple evenly, but sparingly, distributed over the egg, and the surface marks consist of large blotches and streaks of rather bright rusty brown. These marks are larger at the thick end than elsewhere, and run chiefly in the direction of the longer axis of the egg. In some eggs the marks form a distinct cap, and the shell marks are very few. All the eggs are exceedingly beautiful."

The eggs of this species obtained in India are regular ovals of the usual Water-Hen type. The shell is tolerably fine and compact, but they have not much gloss. The ground colour varies from white to salmon pink. The markings consist of spots, specks, streaks, and blotches, varying from maroon red to reddish brown, and smaller spots and streaks of dull inky purple or grey. The markings apparently, never very dense or numerous, are chiefly confined to the larger end.

The eggs I possess only vary from 1·28 to 1·41 in length, and from 0·98 to 1·13 in width, but the average of twenty-four is 1·35 by 1·02 nearly.

THE DIMENSIONS of this species vary very considerably, but I cannot make out that there is any constant difference in size between the sexes, though possibly with a very large series of measurements the females would prove to average slightly larger. As it is, the largest and the smallest birds we have ever measured were both females.

Length, 9·8 to 11·5 ; expanse, 14·25 to 17·5 ; wing, 4·5 to 5·0 ; tail from vent, 1·5 to 2·25 ; tarsus, 1·35 to 1·62 ; bill from gape, 1·35 to 1·82 ; weight, 3·6 ozs. to 5 ozs.

These are all specimens measured in the flesh ; in twenty-

three other specimens from India, Burma, and the Malay Peninsula, the wings vary from 4·4 to 5·0. There is not a single specimen in my large series in which the wing exceeds 5·1.

As for the colours of the soft parts, these vary to an extent that is quite incomprehensible; the irides are most commonly reddish brown, but they are also light yellowish brown, yellowish chestnut, vandyke brown, Sienna brown, pale brown, Indian red, and litharge red; the legs and feet are plumbeous green, olive green, fleshy grey, greyish brown, brown, greenish brown, slaty green, leaden blue, "leaden grey, tinged with greenish and brown" *(Swinhoe)*, and "dirty buff" *(Ramsay)*.

The bill varies equally; the following are the colours as recorded by myself and others;—upper mandible dusky brown; gape and lower mandible orange, shading to brown at tip;—culmen deep brown; basal portion of bill rosy red; terminal portion greyish brown;—"bill purplish brown; base dull crimson" *(Everett)*;—"bill bright plum colour" *(Ramsay)*;—bill dull Indian red, except along ridge of culmen, which is dark brown;—upper mandible dark brown; lower mandible and triangular patch at base of upper mandible pink;—bill purple; culmen dark brown;—"bill bright madder pink on basal two-thirds, light violet grey on apical one-third; culmen dark" *(Swinhoe)*;—"bill bright coral pink, whitish in the centre, brown on the culmen and at tip of both mandibles" *(Butler)*.

THE PLATE is by no means satisfactory; the right hand figure is intended to represent our present species. The face, sides of the neck, and breast should be a rather pale blue grey instead of the colour shown; the whole of the spotting of the crown, nape, and back of the neck is due to some mistake. These parts should be unspotted chestnut red, like the streak shown in the plate from behind the eye. It is only in the young bird that these parts are mingled with brown, and then the brown is in long streaks not spots. The white banding on the wings and mantle is not sufficiently distinctly shown, and, varying as do the colours of bills and feet, I doubt whether they are ever as depicted in the plate.

THE NESTLING of this species has the whole upper surface blackish brown, the feathers of the back margined with brown; the chin, throat, and middle of the abdomen whitish; the rest of the lower surface chiefly fawny brown, with faint traces of white barrings on the side of the abdomen; the little wings are like the back, except that they exhibit pale dots on either web of the feathers—the first traces of the barrings that extend in the adult bird over the entire wings and upper plumage.

In this species the white barrings develop very rapidly, and may be observed in comparatively quite young birds which have not yet acquired a trace of rufous on the crown and neck.

THE ANDAMANESE BANDED RAIL.

———o———

Hypotænidia obscuriora, *Hume*.

———o———

Vernacular Names.—[ ]

———o———

I HAVE already pointed out (note p. 245) the differences that exist between this species and the Banded Rail of Continental India, Burma, and the Malay Peninsula (the constantly larger size, the nearly black upper surface, almost entirely wanting the brown margins to the feathers, the deep leaden grey neck and breast, and the dusky maroon cap and nape), and I have explained the doubt that may still exist as to which of the two forms should properly bear the name *striata*. I have now only to add that the present form is, *we* believe, absolutely confined to the Andaman Group (where it is a permanent resident), it not having as yet been procured even at the Nicobars.

FROM THE little I can learn (for no one seems as yet to have observed it closely), the habits of this species are precisely those of its Continental congener.

Davison remarks:—"I have only observed this bird at Aberdeen, South Andaman, where I have flushed it from the sugarcane fields and secondary scrub on the outskirts of fields and gardens. Generally they are found singly, occasionally in pairs. I have never heard them utter any note; I have always found them silent and very shy of observation. The flight is slow and somewhat heavy, and seldom extends for more than twenty or thirty yards. I did not observe it at the Nicobars."

TWO NESTS of this species, taken in May and July, were mere pads of grass, placed in tufts of grass and rush, near the edges of clearings in the neighbourhood of Aberdeen. They contained four and six eggs respectively.

All these eggs, as well as two previously sent me by Captain Wimberley, are precisely similar. They are very regular ovals, usually slightly more pointed at one end, and with a faint gloss. The ground varies from nearly white to a pale brown

or pinkish stone colour, and it is more or less sparingly spotted, streaked, blotched, and speckled with a rather rich red or brownish red. These markings are somewhat more numerous towards the large end, where, in some, they form an irregular cap. Besides these primary markings, a number of pale purple clouds and spots are scattered about the egg, mostly towards the large end. The eggs vary from 1·38 to 1·48 in length, and from 1·05 to 1·14 in breadth, but the average of twelve is 1·43 by 1·00.

UNFORTUNATELY we have but few specimens measured in the flesh ; these vary as follows :—

Length, 11·5 to 12·75 ; expanse, 17·5 to 18·5 ; wing, 5·3 to 5·5 ; tail from vent, 2·25 to 2·5 ; tarsus, 1·5 to 1·75 ; bill from gape, 1·75 to 2·0.

In no *adult* is the wing as small as 5·2, and it runs to at least 5·6.

The colours of the soft parts were recorded in only two specimens ; in these they were as follow :—

Legs and feet slaty green and dark greenish horny ; irides deep brown ; bill Indian red ; tips of both mandibles and ridge of upper mandible deep horny brown.

Doubtless a more ample record would show variations in the colouring of these parts analogous to those observed in *striata.*

THE PLATE. The left hand figure is supposed to represent our present species, and it is, if anything, less satisfactory than that of *striata.* The face, sides of the neck, and breast should be a very dark leaden grey, not in the least like the colour represented ; the forehead, crown, occiput, and nape should be, *not* the light chestnut of which a trace is shown over the eye and behind the ear-coverts, but a dusky maroon, with no trace of the spotting which the plate exhibits. Even in younger birds there are no such spottings, only blackish streaks on the centre of the crown and occiput, which would not have been visible in the position in which the bird is placed. The colour of the rest of the upper parts is correct enough, but the banding should have been *white,* and *not* pale yellowish. The colours of the soft parts are also, I believe, wrongly represented.

I HAVE satisfied myself that the Rail described by me (S. F., III., 389) as *H. abnormis* is a young bird of this species, and herein lies another marked difference between the present and the Continental form—that, whereas the latter at no stage after it is *fully fledged* ever appears to want the white banding or spotting on the upper surface, this is entirely absent in nearly full grown birds of the present species, which, it thus appears,

assumes the characteristic white bandings of the upper surface some months later than does the Continental species.

The following is a description of a nearly full-grown Andamanese bird, the colours of which closely resemble those of the *nestling* of the Continental form :—

Forehead, crown, occiput, back of neck, entire back, rump and upper tail-coverts black or deep blackish brown, the feathers very narrowly margined laterally with dull olive brown ; scapulars similar, but most of them with a minute brownish white speck on the outer (and in some few on *both*) webs near the tip; chin and throat, as far as the end of the maxilla, white; rest of the throat, lores, entire sides of head and neck, and breast a uniform very dark grey-brown, or deep leaden grey with a brownish tinge ; wings and tail black, with narrow white bars, in many cases reduced to spots, on both webs ; the coverts, secondaries and tertiaries margined with dull olive brown, as in the case of the back feathers, and in the case of the quills, with the outer webs, between the white bars, with more or less of an olive tinge, not reaching in any case either to the bars or the shafts; abdomen, vent, lower tail-coverts, sides and flanks, dull dusky olive brown, obscurely barred with brownish white, the white more or less bounded above and below with blackish ; lower surface of the wing blackish, more or less banded with white.

THERE are many other species of Banded Rails (*Hypotænidia*) distributed through the Islands of the Archipelago, Australia, New Zealand, and the Islands of the South Pacific, but none, so far as I know, from the mainland of Asia or elsewhere. They are mostly very migratory species, but I cannot ascertain that either *striata* in India or *obscuriora* in the Andamans are at all migratory.

F. Walter Chromo-Lith. 18. Hatton Garden, London.

RALLUS ½ INDICUS.

THE INDIAN WATER RAIL.

—o—

Rallus indicus, *Blyth.*

—o—

Vernacular Names.—[ ]

—o—

THE Indian Water Rail, supposed by Mr. Dresser and some others (who had never examined specimens) to be identical with the European bird, "The Water Rail," is really about as distinct as any nearly allied species can well be.

Both forms occur in India, and both, so far as I know, are only cold season migrants to the country, but their areas of distribution are quite distinct, and they come to us from very different regions.

It may be well to premise my remarks by indicating distinctly the differences between the two species.

The Indian bird has no doubt a somewhat longer wing. I find in a considerable series of adults of *both* sexes of *both* species, that the wings in *indicus* vary from 4·8 to 5·3, while in *aquaticus* they vary from 4·5 to 4·9. But I do not find that there is any appreciable difference in the thickness or length of the tarsi, or in the length of the bills between the two species, though the dimensions of these parts vary much in individuals of both forms.

In *indicus* the bills, measured from the point of the frontal skin, vary from 1·5 to 1·67, while in *aquaticus* they vary from 1·48 to 1·76. Again, the tarsi of *indicus* vary from 1·55 to 1·75, and in *aquaticus* from 1·55 to 1·72; but I have only ten *indicus* and nine *aquaticus* before me, and doubtless with twenty of each it would be found that there was absolutely no difference in the bills and tarsi.

But besides the larger wing, the plumage differs considerably. In *aquaticus* there is a dusky spot in front of the eye, but the whole of the ear-coverts and the cheeks are unicolorous with the sides of the head, neck and breast; in *indicus* the dusky spot is darker, larger, and more conspicuous, and it is continued backwards as a distinct line or band under the eye and along the upper portion of the ear-coverts.

In *indicus* there is always a short distinctly paler stripe over the lores from close to the base of the lower mandible to a point

nearly over the middle of the eye ; often almost white, and very conspicuous. In *aquaticus* this is absent or only just indicated.

The front of the neck, breast, and upper abdomen in *aquaticus* are a pure, more or less dark, leaden grey unmixed with brown or any other colour ; these parts in *indicus* are *much* paler, a light blue grey, and the feathers are everywhere more or less broadly tipped with whitey brown, pale brown, or dingy fawn colour.

The difference thus resulting in the appearance in these parts is very striking when two series, one of each form, are compared.

In *aquaticus* the visible portion of the feathers of the lower abdomen, of those about the vent, and of the lower tail-coverts, are a sort of pale fawn colour. In *indicus* almost the whole of these feathers are barred like the flanks.

In some specimens of *indicus* these feathers no doubt show more or less of pale fawny tippings, partially obscuring the barrings, but in the majority of full-plumaged adults these run distinct on to the lower tail-coverts.

I may add, that in even apparently quite adult *indicus*, the primary median coverts seem always to exhibit a considerable number of narrow white transverse striæ, often associated with a dark line ; while this seems to be very rare and always more limited in its extent in *aquaticus*.

Setting aside other minor points, those by which I should diagnose the species are, the larger wing, the dark facial stripe, and the different colour of the throat, sides of the neck, breast, and upper abdomen, both which points of colouration are well brought out in the plate.

As to the distribution of the Indian Water Rail, alike within and without our limits, our information is most imperfect. Layard records it from Ceylon, but I have seen no specimens thence. It may also occur in the extreme south of the Peninsula, but I have no record of its occurrence anywhere within our limits, except about Calcutta (where it is common), in several of the Deltaic districts of Bengal, the Bhútan Duárs, the Sikhim and Nepal Tarais, the valley of Nepal, Tipperah, and Aracan.

Eastwards it very probably occurs throughout Assam, and westwards it may extend along the moist, submontane tracts as far as the Ganges ; but both these facts have yet to be ascertained, and in the Dún it is replaced by the European species.

It has not been recorded from Pegu or Tenasserim.

Outside our limits, it is found in Japan and, I believe, South-east Siberia, Dauria, and Northern China, and Prjevalski thinks it was this species that he met with at Tsaidam and in the valley of the Hoang-ho in May, and which arrived at Lake Hanka towards the end of April and bred there. But Swinhoe,

David and Oustalet, Taczanowski and Prjevalski all write somewhat vaguely; and though I have no doubt that our bird and Bonaparte's "variety," *japonicus* of Schlegel, from Japan are identical, I cannot feel *absolutely certain*, though I fully believe such to be the case, that the Chinese and Tibetan birds are also identical, and I half suspect, from the way in which some of these authors write, that *aquaticus* also may extend to China, and that they have not fully appreciated the difference between the two species.

In the neighbourhood of Calcutta these birds frequent patches of rush, grass, and brushwood at the edges of wet cultivation, small choked-up ponds, and ditches; but though they are nearly as common there, to judge from the numbers brought into the market, as the Blue-breasted Banded Rail, and though I have watched for them often, I have never seen one in the open, on land or water, and indeed have only seen some half a dozen in a wild state, most of them accidentally flushed when beating for other things.

They fly heavily, even more so than the Banded Rail, but in precisely the same style, flapping along with the legs hanging down behind, and dropping after twenty or thirty yards, not again to be roused, dogs or no dogs. Indeed, according to my limited experience, they are the greatest skulkers of the whole family.

Their food, ascertained by an examination of the stomachs of many snared birds, consists chiefly of insects of all kinds, small shells, worms, grass and other seeds, and green vegetable matter.

There is some small onion-like bulb of which they seem very fond, as I continually found silvery flakes of it amongst their food, which is also much mixed with tiny pebbles and coarse sand.

Their call-note is a sort of croak, like what a frog, with a tenor instead of a base voice, might be expected to utter. It is often heard, but though you beat for him at once, it is next to impossible to find the croaker. I have never seen more than one flushed in a day; but the fowlers, who catch them in horse-hair nooses, set along the narrow banks that divide the rice fields, say that there are often half a dozen in the same spot, as also that all or most of them arrive in October and disappear about the begining of April. *Some* men say say that here and there birds remain the whole year, and that they have found the nests; but though it is well to note what they say for further verification, no reliance can *ever* be placed on these people's statements. My own belief is that the bird is *purely* a cold season visitant to the Empire.

NOTHING IS known of its nidification, which, however, can scarcely differ from that of its closely-allied western congener.

I HAVE myself carefully measured a large series of this species in the flesh, and am unable to make out any constant difference in the size of the males and females. Dimensions vary as follows:—

Length, 10·6 to 12·0; expanse, 16·0 to 18·8; wing, 4·8 to 5·3 (*very* few under 5·0); tail from vent, 1·8 to 2·6; tarsus, 1·55 to 1·75; bill from gape, 1·65 to 1·92; from point of frontal skin to tip, 1·5 to 1·67; mid-toe and claw, 1·82 to 2·0; weight, 4 ozs. to 6·45 ozs.

The irides of the adult are red; in younger birds they are pale yellowish brown, brownish orange, brownish red: the legs and feet dull dingy pink (cold weather), sometimes only pinkish dusky, or brownish fleshy, and generally duskier and purpler on joints and at back of legs; sometimes they are only pale dove brown, and sometimes pale yellowish fleshy with a brownish tinge. In the bill the basal two-thirds of the lower mandible, a corresponding stripe on the upper mandible along the commissure and the gape, are vermilion in adults, reddish yellow or orange red in younger birds; the rest of the lower mandible brownish; the rest of the upper mandible deep brown, at times paling to the tip.

THE PLATE is, on the whole, very satisfactory; but, so far as I know, the legs are never green, and the bill is not quite correctly coloured.

THE WATER RAIL.

———o———

Rallus aquaticus, *Linné.*

———o———

Vernacular Names.—[Yekan tokhisi (Rush Fowl), *Yárkand.*]

———o———

WHEN dealing with the Indian Water Rail, I pointed out the differences that exist between it and the present species, which is our well-known English bird.

The present species occurs in the Dún. I have two specimens shot there by Dr. King, and Dr. Adams (who, however, calls it *indicus*) says that it is "common in the Punjab in the winter months." I believe it would be more correct to say that it is a *rare* visitant to the submontane tracts from the Kabul River to the Ganges. The only specimens I have ever *seen* are those above noticed from the Dún, and I have only *heard* of two others being killed, one near Siálkot and one near Abbottabad.* Outside the Sub-Himalayan districts, I have never heard of the occurrence of this species either in the Punjab or any other part of India, but I should expect it to turn up in Sind, and some birds may possibly summer in Kashmír.

This species certainly occurs in Afghanistan, Khelat and Persia. It is this species which is common in the plains of Yárkand and Kashgar, and, according to Severtsoff, in parts of Western Turkestan.

Westwards it is found in Asia Minor and Palestine, throughout Europe, except in the *extreme* north (some are permanent residents even in the Shetland Islands!), and throughout Northern Africa; of course in all cases in suitable localities only.

OF ITS habits, while in India, we know nothing. Macgillivray remarks: "It frequents moist meadows, the sides of ditches, brooks, or streams overgrown with sedges, reeds, and other rank plants, as well as marshes, especially those abounding in the

* Like its Indian congener, this bird is such an inveterate skulker that it may seem rarer than it really is; but if it had *really* been *common* in the Punjab, I must, during the last 12 years, have heard and seen a great deal more about it.

yellow iris. Concealed by the vegetation, it there pursues its avocations, never venturing into the open fields or pastures, and seldom rising on the wing, even when closely pressed, but running with great celerity, and threading its way through the most apparently impenetrable thickets of reeds. When forced to take wing, it flies slowly and rather awkwardly, with its legs dangling, and seldom proceeds far, but alights and skulks. Unlike the Corn Crake, which greatly resembles it in habits, it remains with us all the year. Its food consists of worms, slugs, helices, lymneæ, insects, and seeds of gramineæ."

No one seems to have noted anything special about its habits; it is said to have "a rather* loud clear cry, resembling the syllable '*creek*,' which it seems to utter when on the wing, especially during the season of passage; and, besides this, the bird often calls his mate with a sharp whistle resembling the sound produced by drawing a switch quickly through the air.

"It swims with ease and grace, and when on the water resembles the Water-Hen, elevating its tail and jerking its head as it paddles along. Naumann states that it will occasionally perch on a low bough of a tree. It is a very unsociable bird, and is seldom found otherwise than singly or in pairs even on passage."

I DO NOT believe that this species breeds within our limits, though it possibly may do so in Kashmír. Dresser says:—

"It breeds in damp, swampy localities, and conceals its nest with great care. This latter, which resembles that of the small Crakes, is placed above the water or marsh, and is constructed on the bent leaves or stems of sedge or rushes, but seldom resting on the ground itself. It is a loosely-made structure, formed of dried leaves of aquatic plants, tolerably large, and contains eight or ten, or sometimes even more, eggs; and the young birds are able to leave the nest soon after they are hatched, and, like those of the Land-Rail, are very expert in hiding when disturbed and danger threatens. Colonel Irby, who has taken the eggs of the Water Rail in Spain, writes:—'They build in rushes or sedges, laying about the 20th of April. On the 13th of May we found two nests, from each of which Mr. Stork succeeded in snaring one of the old birds; these nests, built entirely of dry sedge, and lined with a few bits of dry grass, were just raised above the water, and measured 6 inches in height, depth, and diameter; the hollow of the nest was 4½ inches across by 2½ deep. Each nest contained seven eggs much incubated—one lot being of the usual type, the other resembling more those of the Spotted Crake, or, rather, looking like miniature Water-Hen's eggs with larger blotches than usual.'

---

* Dresser.

"Eggs of the Water-Rail in my collection are pale whitish stone-buff in ground colour, sparingly marked with pale purplish shell-spots and dark red surface spots and blotches, and measure from 1·38 by 1·02 to 1·4 by 1·05 inch."

Mr. Smith of Yarmouth long ago gave a good account of the nest and eggs of this species. He said:—"The bird had selected for her nest a thick tuft of long grass, hollow at the bottom, on the side of the reed pond; the nest, about an inch and a half thick, was composed of withered leaves and rushes; it was so covered by the top of the grass that neither bird, nest, nor eggs could be seen; the entrance to and from the nest was through an aperture of the grass, directly into the reeds, opposite which any one could stand and see the nest. The length of the eggs, on an average, was one inch and a half, some nearly a tenth more, others nearly a tenth less; weight, seven drachms; colour, light cream, thickly spotted at the larger ends with bright rusty red, intermixed with sunk, faint lilac spots, thinly and finely spotted at the lesser ends with the same colours, with a blush of pink over the whole egg, but more towards the lesser end; the yolk a bright blood-red, brighter than any egg I ever opened, and I think that the pink tint of the shell is owing to the redness of the yolk, for after emptying the eggs it was hardly perceptible. On the 20th of June I found another nest in the same reed pond; the eggs were destroyed; this nest was built among the reeds and near the water. On the 10th of July I obtained a third nest from the same place, of eleven eggs, within two or three days of hatching; the nest and situation much like the last."

THE FOLLOWING are dimensions recorded in the flesh of Dún, Yárkand and Kabul birds:—

Length, 10·9 to 12·1; expanse, 15·5 to 16·7; wing, 4·5 to 4·9; tail from vent, 2·25 to 2·8; tarsus, 1·55 to 1·72; bill from gape, 1·63 to 1·9; from point of frontal skin to tip, 1·48 to 1·76; weight, 3 ozs. to 5·2 ozs.

The irides red; gape and stripe along commissure on basal half of upper mandible and basal two-thirds of lower mandible, orange red to vermilion; tips of both mandibles greyish or brownish horny; rest of upper mandible dark brown; legs and feet brownish pink to fleshy brown.

Of a young bird, Dr. Scully notes:—

"Bill dusky brown; lower mandible brownish orange at base; irides greenish straw colour; legs and feet greyish brown."

THE PLATE.—This species is so like *indicus* that it seemed useless to figure it. The reader has only to imagine the dark facial stripe withdrawn, and the sides of the face and sides

and front of neck, breast and upper abdomen a more or less dark pure leaden grey instead of the pale mingled grey and whitey brown shown in the plate, and he will have in his mind's eye a sufficiently correct picture of *Rallus aquaticus.*

THERE ARE other species of true Water Rails in Africa, notably one, *cærulescens*, very closely allied to both our species; others again that I should thus class occur in Australia and the Islands of the South Pacific, and, I may add (for I doubt the *Pardiralli* being separable), all over America.

PRINTED BY A. ACTON, CALCUTTA CENTRAL PRESS CO., LD., 5, COUNCIL HOUSE STREET.